

Kawneer
STORE FRONTS

2923

Digitized by:



ASSOCIATION
FOR
PRESERVATION
TECHNOLOGY,
INTERNATIONAL

www.apti.org

BUILDING
TECHNOLOGY
HERITAGE
LIBRARY

<https://archive.org/details/buildingtechnologyheritagelibrary>

From the collection of:

Jim Draeger

COPYRIGHT
1913
KAWNEER MANUFACTURING COMPANY
NILES, MICHIGAN



KAWNEER was the first--the Original Construction by which Store Front Glass could be set directly between two metal-bearing surfaces, without the assistance of putty, cork, wood or any other cushion substance. Every improvement made in Store Front Construction since then is a product of KAWNEER Designers and is shown on the following pages.



Kawneer PRODUCTS

Made by the

KAWNEER MANUFACTURING COMPANY

Francis J. Plym, President

General Offices : Niles, Michigan

BRANCH OFFICES

KAWNEER MANUFACTURING COMPANY.....	416 Madison Terminal Building, Chicago, Ill.
KAWNEER MANUFACTURING COMPANY.....	1123 Broadway, New York, N. Y.
KAWNEER MANUFACTURING COMPANY.....	612 Grand Ave. Temple, Kansas City, Mo.
KAWNEER MANUFACTURING COMPANY.....	727 Ford Bldg., Detroit, Mich.
KAWNEER MANUFACTURING COMPANY.....	2615 Olive St., St. Louis, Mo.
KAWNEER MANUFACTURING COMPANY.....	1216 House Bldg., Pittsburgh, Pa.
KAWNEER MANUFACTURING COMPANY.....	1129 Candler Bldg., Atlanta, Ga.
KAWNEER MANUFACTURING COMPANY.....	405 Empire Bldg., Philadelphia, Pa.
KAWNEER MANUFACTURING COMPANY.....	301 Watkins Bldg., Milwaukee, Wis.
KAWNEER MANUFACTURING COMPANY.....	251 Security Bank Bldg., Minneapolis, Minn.
KAWNEER MANUFACTURING COMPANY.....	784 Ninth St., Des Moines, Ia.
KAWNEER MANUFACTURING COMPANY.....	170A Tremont St., Boston, Mass.
KAWNEER MANUFACTURING COMPANY.....	420-422 Turk St., San Francisco, Cal.
KAWNEER MANUFACTURING COMPANY.....	819 Yeon Bldg., Portland, Oregon
KAWNEER MANUFACTURING COMPANY.....	313 Garfield Bldg., Cleveland, Ohio
KAWNEER MANUFACTURING COMPANY.....	423 Fletcher American Bank Bldg., Indianapolis, Ind.
KAWNEER MANUFACTURING COMPANY.....	78 Duchess St., Toronto, Ontario
KAWNEER MANUFACTURING COMPANY.....	1017 New Birks Bldg., Montreal, Que.

SALES AGENTS

Western Glass & Paint Company.....	301-317 S. 12th St., Lincoln, Neb.
Leo H. Bladen.....	216-17 Dillaye Bldg., Syracuse, New York
McMurtry Manufacturing Company.....	1716-1720 Arapahoe St., Denver, Colo.
Bennett Glass & Paint Company.....	67 W. 1st South St., Salt Lake City, Utah
Tousley & Weare Company.....	1124 Paulsen Bldg., Spokane, Wash.
Todd-Chase Company.....	324 Security Bldg., Los Angeles, Cal.
Theodore F. Snyder.....	San Diego, Cal.
S. W. R. Dally.....	435 Globe Bldg., Seattle, Wash.
Cincinnati Clay Products & Supply Co.....	409-410 Johnston Bldg., Cincinnati, O.
Jacques Steel Co.....	101 S. Houston St., Dallas, Texas
R. Angus.....	1105 Wharf St., Victoria, B. C.
Ames Bros.....	Welton Block, Vancouver, B. C.
Braid & McCurdy.....	204 Farmer Bldg., Winnipeg, Man.
The J. H. Lavallee Co., Ltd.....	Alexandra Block, Howard Ave., Edmonton, Alta.
Western Supply & Equipment Co.....	P. O. Box 1989, Calgary, Alta.
Western Steel & Supply Co., Ltd.....	1941 Scarth St., Regina, Sask.
Canadian-Western Builders' Supplies, Ltd.....	301 Dominion Bank Bldg., Saskatoon, Sask.

FACTORIES : Niles, Michigan San Francisco, Calif. Toronto, Canada



A WORD TO THE TECHNICAL MAN

TO you the ideal Store Front Construction is one that is built around practical ideas, of material that will last, and incorporating features that will be of benefit to the Merchant as well. When *Kawneer* originated, Store Front construction was most crude and far from equal development as compared to other building materials. Up to that time apparently nobody had given this part of construction work any serious thought, leaving the old, antiquated and worn-out ideas to go on as before; and upon reflection you will readily agree that a great mistake was being made, because of the wonderful latent power of the improved Store Front — because of its value to the merchant if only exercised.

The Inventor of *Kawneer* Store Fronts, as a practicing Architect, came in intimate contact with the vital needs of a New-departure Construction, both from your standpoint and that of the merchant-tenant. An idea occurred to him — the idea grew into reality, and by its development and growth has actually revolutionized this field. His ideas were original, and without a doubt, the ultimate success of *Kawneer* was due, to a great degree, to holding firmly to this policy — Originality.

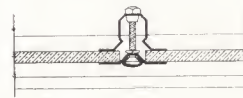
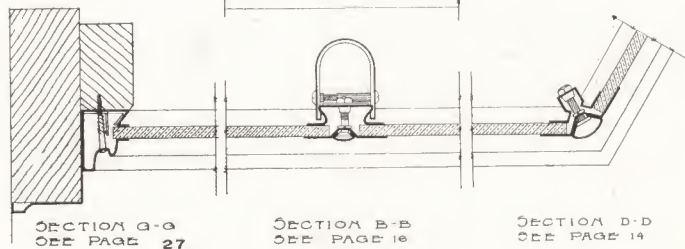
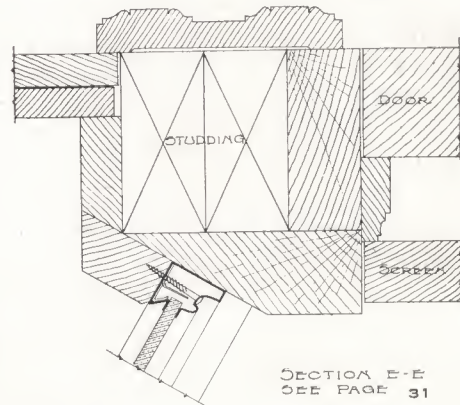
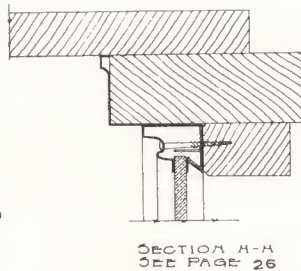
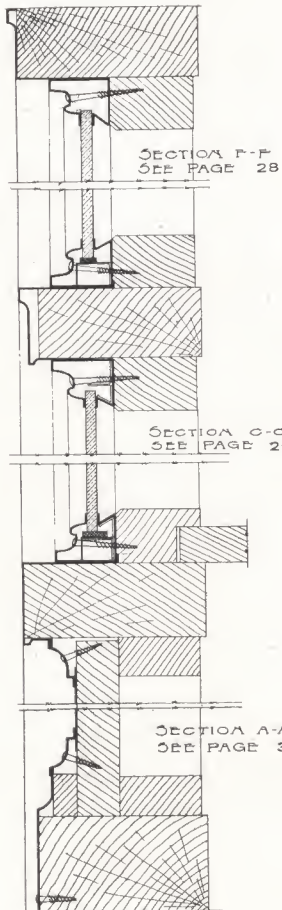
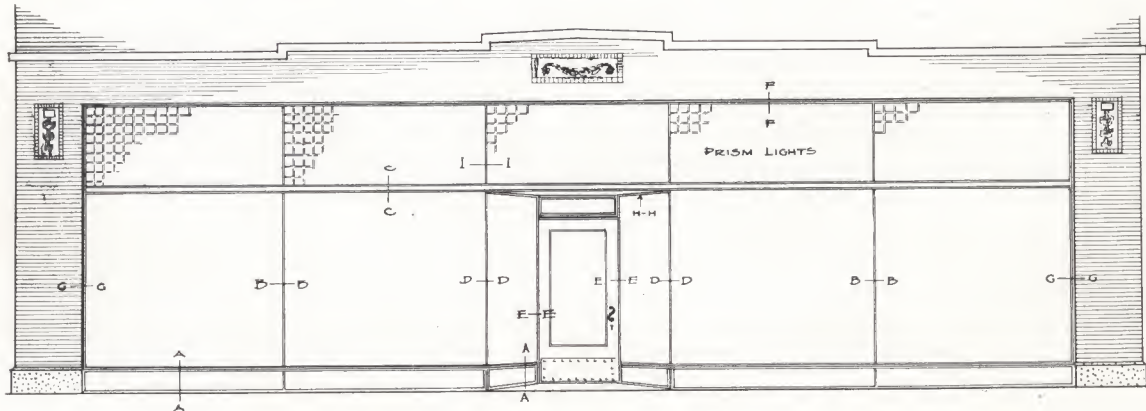
Every feature incorporated in *Kawneer* is there because it is needed. There are no unnecessary parts built in to cause complication. *Kawneer* is simple of construction, practical in design and can be installed by any mechanic using ordinary care.

This booklet is compiled, printed and presented for you to read and study, so that you may learn just what *Kawneer* is, how it is constructed, how it is installed and what it will do after installation. Full size details are shown, wherever possible, which at a glance show the sturdy and compact construction of each member. Also, please take particular note that *Kawneer* is complete — not simply a Corner and Division Bar, but complete from side-walk to I-beam.

Kawneer is not and never was an imitation — every idea has been original from its conception. The origin of almost every new feature in solid, all-metal Store Front Constructions of every kind and make can be traced directly to *Kawneer*. However, we are glad to be the leaders — we are flattered by this imitation and are happy to be of such strength to withstand the piracy of other makers. We are the Originators and Pioneer Manufacturers of the solid, all-metal Store Front and sincerely believe we are in a position to serve and co-operate with you on all matters pertaining to Store Fronts. It has been our object from the beginning to produce a construction that fulfills your every requirement, however exacting it may be, and after you have studied this Booklet and learned the merits of *Kawneer*, we believe we will enjoy your hearty approval.



ELEVATION OF A MODERN STORE FRONT



SECTIONAL DETAILS OF
CONSTRUCTION SHOWN ABOVE
ONE QUARTER SIZE

STORE FRONT TYPES

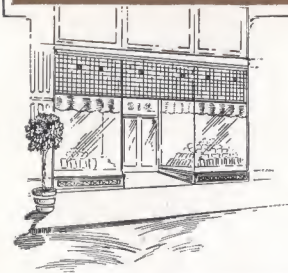
TODAY the aggressive Merchant looks to his Architect for commercial Store Front ideas — for selling ideas and for that reason the subject of Store Front types is given a great deal of study.

Our seven years and more of Store Front specialization has placed us in a position to observe and learn the Merchants' actual requirements and always are we glad to co-operate with the Architect to effect the most efficient results.

The success of a Store Front depends entirely upon its adaptability to the existing conditions. The Jewelry Store Front, for example, must necessarily differ from that of a Furniture Store. So many Fronts are built exactly alike that the individual Front stands out in strong contrast with all others.

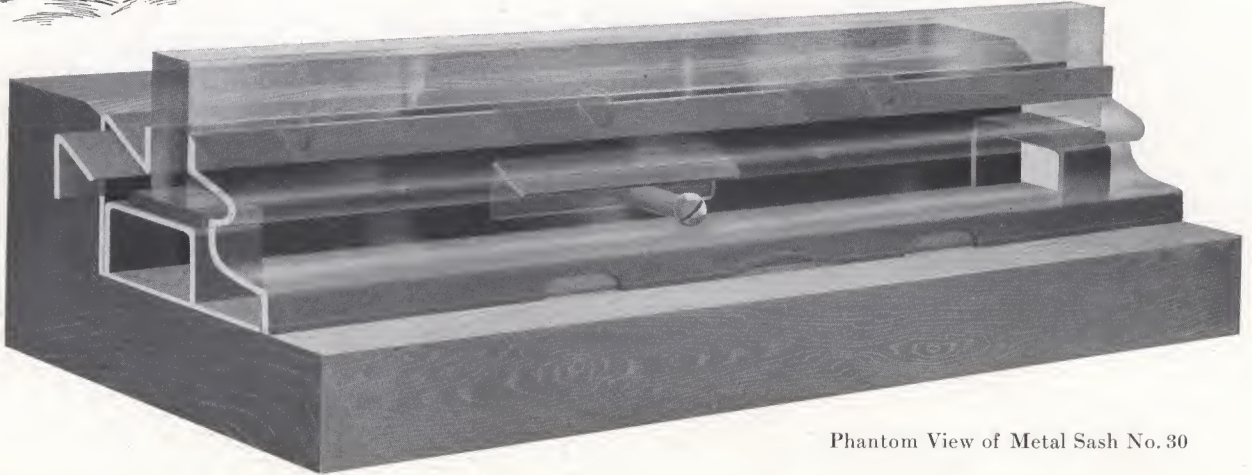
To produce this individuality an exorbitant expense is not necessary — it is merely a matter of designing a practical Front to fit each particular Store.





IMPROVED METAL SASH

No. 30



Phantom View of Metal Sash No. 30

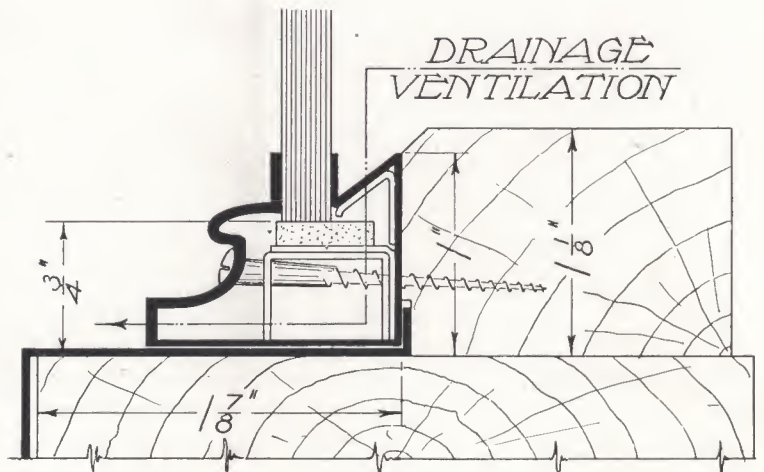
THIS metal sash forms a setting for all glass, plate and prism. The face piece of No. 30 Metal Sash is made of No. 16 B. & S. gauge copper, brass, bronze or aluminum. There are two large vent holes in every foot of face piece. The spring gutter is made of No. 20 B. & S. gauge metal in which $\frac{1}{4}$ " drainage and ventilation holes are punched every two inches. No vent holes are punched in sash at sides and head of transom glass, however full drainage is provided for at bottom of transom glass.

A V-shaped slide, with holes punched to correspond with those in the gutter, is built in the gutter, and is easily operated from the inside. This slide makes the Kawneer *Regulated Ventilation*, an all-important feature, marking a great advancement. A lip is punched in the back gutter to allow driving the wood screws into the wood backing and at the same time forming a protection to the lower edge of the glass.

Solid bronze screws are used to fasten the face piece to the wood backing. Bronze oxidized screws are used for gun metal and spotted oxidized finishes.

Corner and straightway caps are provided for covering all joints and mitres of this sash. A tap, drill and $\frac{1}{2}$ " machine screws are furnished with each order, by means of which the caps are attached.

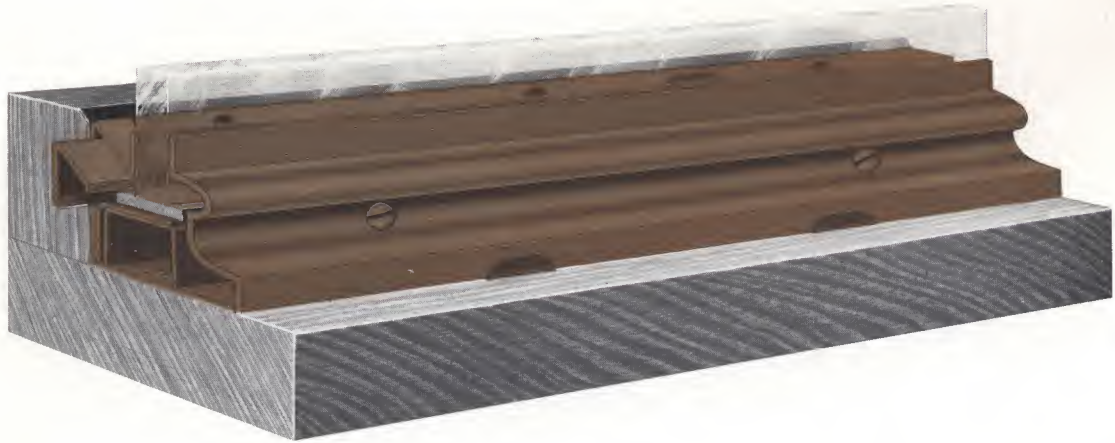
Sash No. 30 is used on all sills, side and head jambs, either directly against the brick, wood, stone or I-beam, or in conjunction with metal mouldings, as shown on page 26.



Metal Sash No. 30, Full Size



REGULATED VENTILATION AND DRAINAGE



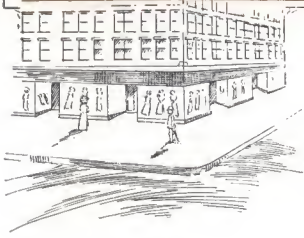
Metal Sash No. 30

THE improvement in this sash; which, by means of a simple slide, *regulates* the ventilation of a show window; marks the greatest advancement in Store Front Construction since the origin of Kawneer Store Fronts.

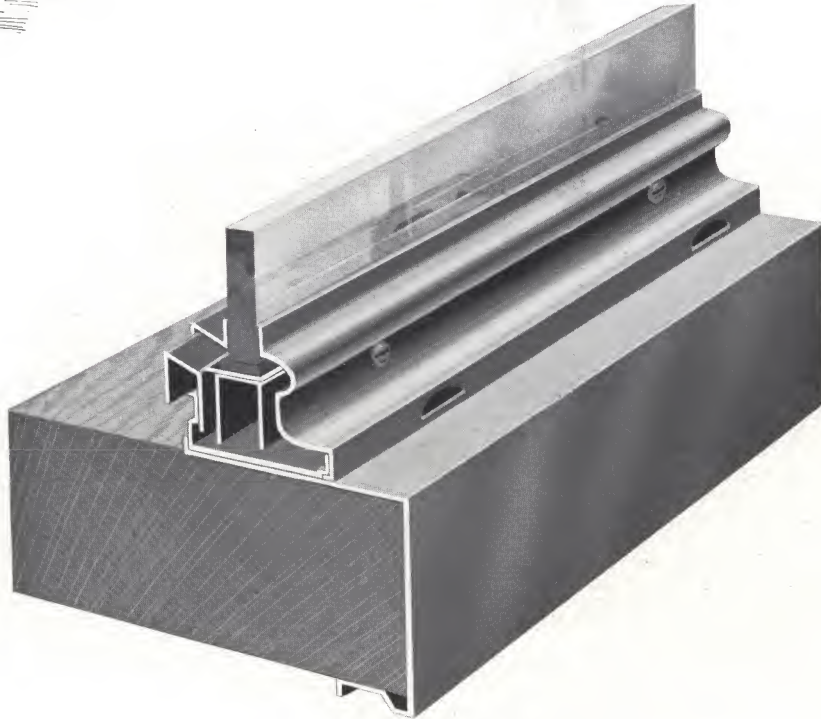
A full and effective current of air can circulate across the inner surface of the glass, absorbing the moisture in the window, and by moving a slide in the sash, operated from the inside, the entrance of air can be entirely cut off, thus rendering the show windows dust-tight.

Aside from the question of architectural design, materials used, method of grip on glass and lasting qualities, the one point of supreme importance in Store Front Construction is the principle of ventilation and drainage and its efficiency. To have an air-tight sash, and, at will, one that perfectly ventilates and drains is something which has never before been produced.

The angle slide is also built in Sash Nos. 60 and 130 — See pages 10 and 11.

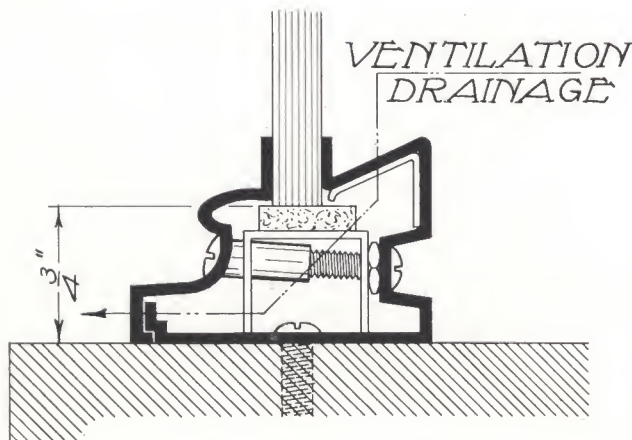


METAL SASH No. 60



Metal Sash No. 60 and No. 608 Sill Covering

METAL SASH No. 60 resembles the No. 30 sash in size, and differs in that it is self-supporting by means of screws through the base. This sash is used in case no backing of any description is desired.

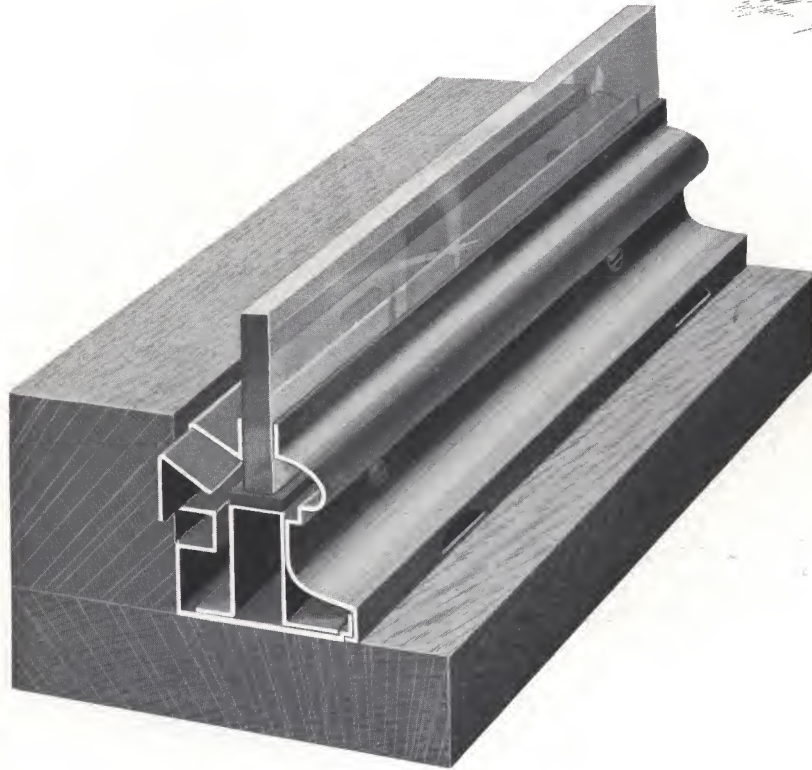


Metal Sash No. 60, Full Size

Kawneer *Regulated Ventilation and Drainage* is provided for as in the No. 30 sash, by the angle slide built in the gutter.

No. 16 B. & S. gauge metal is used for the face piece and gutter, which insures ample strength under all conditions. Like the No. 130 metal sash shown on page No. 11, machine screws are used, and drawn to the proper tension, rigidly hold the glass with ample allowance for contraction and expansion of plate.

METAL SASH No. 130

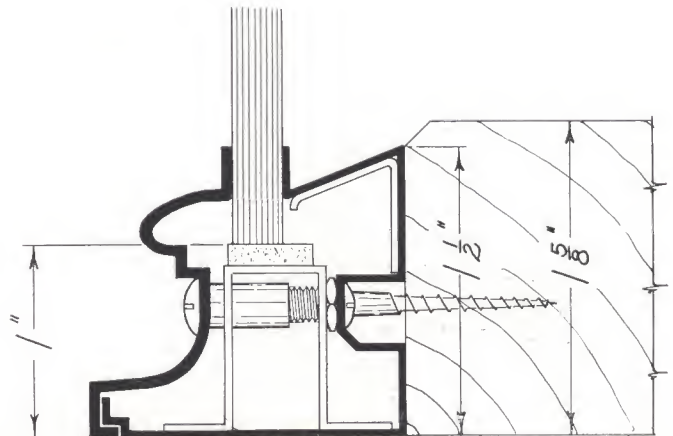


Metal Sash No. 130

SASH No. 130 is very similar to No. 30 except that it is larger and affords a greater grip on the glass. Vent holes are punched in the wide gutter and in the face piece, which properly provides for ventilation and drainage.

This sash is so constructed that it can be easily placed against wood or metal as a backing. Like the No. 30 metal sash, it is provided with an angle slide for the Kawneer *Regulated Ventilation and Drainage*.

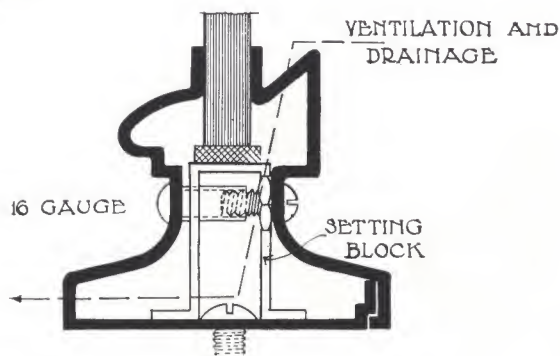
The face piece of the No. 130 is of No. 16 B. & S. gauge metal and the gutter is of No. 20 B. & S. gauge. It is provided with an extra large gutter, $\frac{5}{8}$ " wide, which will take care of any excess amount of moisture that may occur.



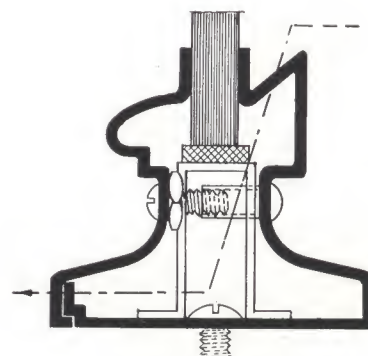
Metal Sash No. 130, Full Size



METAL SASH Nos. 50 and 100



Metal Sash No. 50, Full Size



Metal Sash No. 100, Full Size

METAL Sash No. 100 is designed for use where no wood is desired back of the sash. The face piece and spring of this sash are drawn from No. 16 B. & S. gauge metal, and when fastened securely to the sill and jamb construction does not require woodwork of any nature. This sash is particularly adapted to large business buildings.

Ventilation and drainage holes are punched both in the face piece and in the gutter.

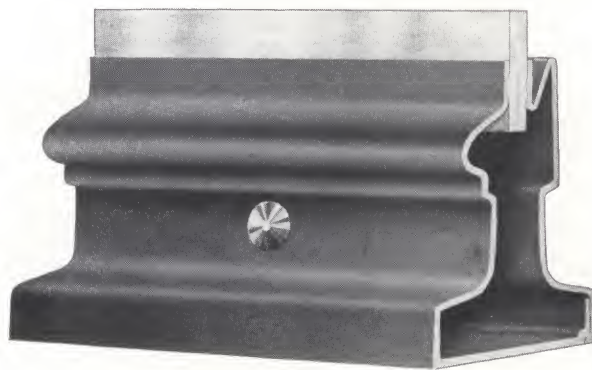
A metal setting block (No. 20 B. & S. gauge) is used to support the glass, while machine screws with barrel nuts tightly hold the face piece and spring against the glass. With sash No. 100 the glass is set from the outside.

Metal Sash No. 50 is identical to Sash No. 100, except that it provides for the glass to be set from the inside. This sash is designed to adequately take care of the plate glass used in second or third story display windows.

Since Sash No. 50 is for the installation of plate glass above the first story, unless specially ordered, it will not be provided with ventilation and drainage holes, such display windows being very seldom "backed" or enclosed.

Corner caps are furnished as for Sash No. 30.

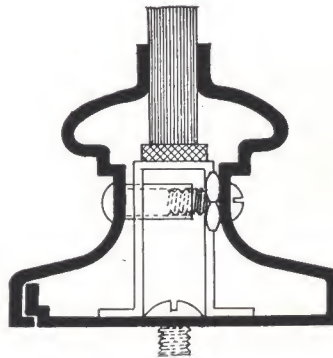
Either No. 50 or No. 100 Sash can be used in connection with architectural metal mouldings exactly as detailed for the Sash No. 30.



Metal Sash No. 50



METAL SASH No. 150



Metal Sash No. 150, Full Size

THE No. 150 sash is a combination of the face pieces of sash Nos. 50 and 100, and is used as a setting for glass where no ventilation or drainage is desired. No. 16 B. & S. gauge metal is used throughout, making it a substantial and self-supporting sash by means of screws through the base.

It can be placed directly against metal, wood, marble or brick, and requires no backing, and is especially adaptable for use in store and vestibule doors.

Note — Mitre caps are furnished with all regular sash for horizontal and vertical joints. Vertical caps are furnished for mouldings Nos. 607 and 609.

Horizontal caps are provided for mitres of sill moulding No. 608 and transom bar moulding No. 710.

Any other caps to be furnished will be charged for according to size and construction.

We manufacture many architectural metal mouldings to the particular specifications of the Architect. Such mouldings of necessity are more expensive than the regular shapes shown in this catalog. Hence, wherever possible, economy, both of time in shipment and of cost, will result if regular shapes are used.

Our engineering and drafting department is ready at any time to give information concerning the installation or use of *Kawneer Store Fronts*, whether the case be a special one requiring detailed drawings or an ordinary one. Estimates of *Kawneer* material complete for any Store Front will be sent immediately upon request for same.



CORNER BARS

ON glass up to 108" x 108", Corner Bar No. 5 can be safely used and on glass over that size, a heavier type Bar should be used.

The No. 10 Bar is very similar to the No. 5 Bar, however, its heavier construction gives it greater strength and is generally used in cases where the No. 5 Bar is not considered of ample strength, and when a bar smaller than No. 15 is desired.

All Corner Bars are anchored at top and bottom by means of brackets which insure safety of the glass under strained conditions.

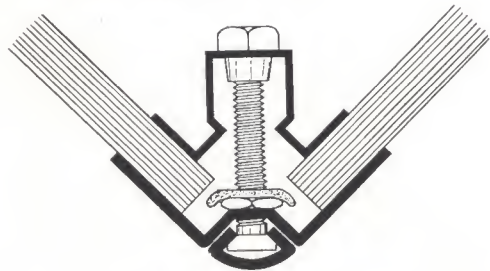
The face pieces of the No. 5 and No. 10 Corner Bars are of No. 16 B. & S. Gauge metal. The springs, (back pieces) are drawn from No. 20 B. & S. Gauge metal.

The face piece of Corner Bar No. 15 is drawn of No. 14 B. & S. gauge metal and the spring of No. 20 gauge. By the cross section detail of this bar, on page 15, its unusual strength is at once apparent.

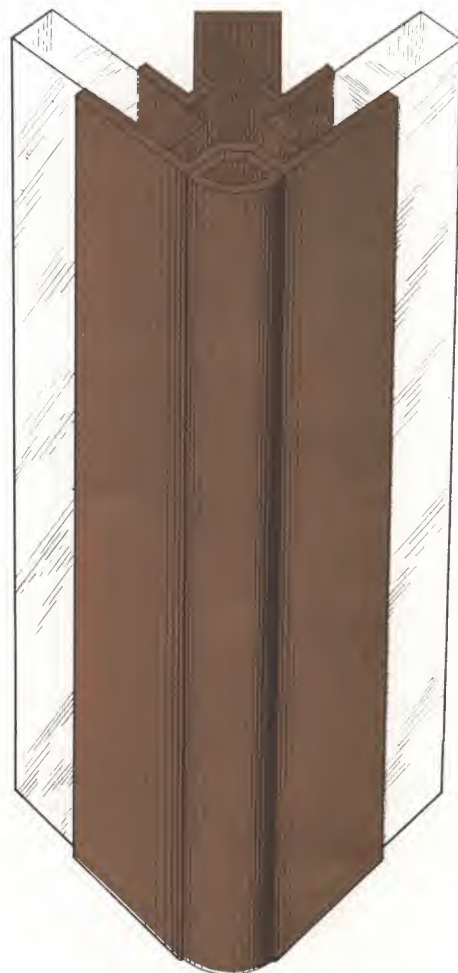
On both bars is used a square head machine screw made especially for *Kawneer* bars. By means of the square head, the screws cannot turn in the head, hence rapidity of installation is gained. The barrel hexagonal nuts used on these bars give as many threads contact with the screw as does the thumb or battery nut. In addition, by means of this barrel or off-set construction, only an exceedingly small part of the nut extends beyond the surface of the spring.

CORNER BAR No. 21D

Oftentimes two plates of glass meet at a very wide angle and experience shows that a bar of greater strength than is possessed by either Corner Bars Nos. 5 or 10 is necessitated in case this angle is of 135 degrees or over.



Corner Bar No. 5, Full Size

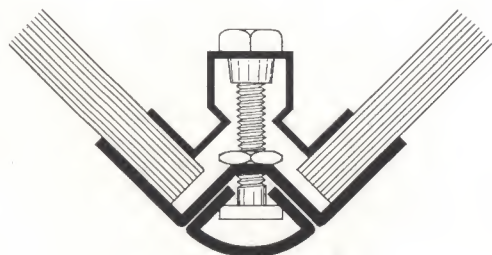


Corner Bar No. 5

In view of this *Kawneer* Corner Bar No. 21D has been designed. It is reinforced in the same manner as the Division Bar No. 21 B and insures ample strength for a bar of this kind for any angle ranging from 135 degrees to 180 degrees — a straight angle. See page 15.

Corner Bars Nos. 5, 10 and 15 can be safely used in angles up to 135 degrees, and of angles over that corner Bar No. 21D will be shipped.

CORNER BARS



Corner Bar No. 10, Full Size

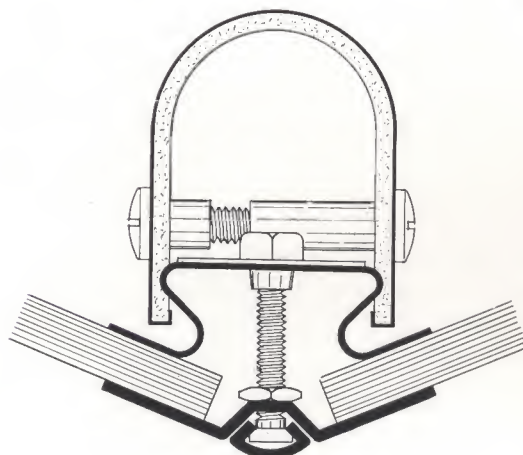
DIVISION Bars Nos. 14A, 21B and 21C are designed for use with varied sized glass.

No. 14A is used for glass up to 60" in height and 108" in width.

No. 21B is used for glass up to 108" in height and 108" in width.

No. 21C is used for glass above 108" x 108".

The face pieces of these Division Bars closely follow the design of the Corner Bar, shown above. No. 16 B. & S. gauge metal is used. On Division Bars Nos. 21B and 21C, the face pieces afford a larger grip on the glass than does the No. 14A Division Bar.



Corner Bar No. 21D, Full Size
For Use on corners of 135° or over

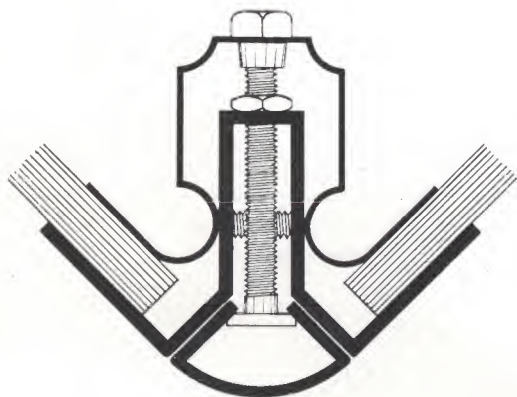
DIVISION BAR No. 14A

The spring, (back piece), of this bar is of No. 20 B. & S. gauge metal, and, being especially designed for use in transom glass, is in every respect sufficiently strong for a glass up to 108 inches wide and 60 inches high. This does not mean, however, that the No. 14A Division Bar can be used with safety with a glass 108 inches high and 60 inches wide — don't use this bar over 60 inches long and do not attempt to hold a glass over 108 inches wide, in that case use No. 21B or 21C.

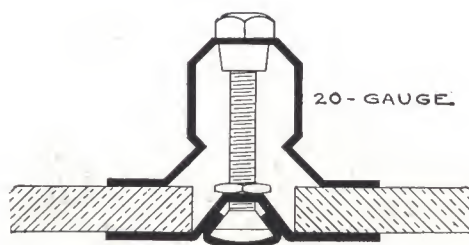
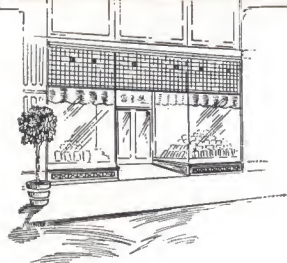
DIVISION BAR No. 21B

This bar is provided with a steel U (.094" thick) reinforcement, which is covered by .012 copper so as to prevent any corrosion, rusting or rotting. By this method of construction a uniform finish is gained both interior and exterior.

The use of the U-shaped steel reinforcement insures ample horizontal as well as lateral strength and by the particular attachment of the steel moulding (to the spring and not in direct contact with glass), the glass may yield back and forth sufficiently to take up shocks and vibrations.



Corner Bar No. 15, Full Size



Division Bar No. 14A, Full Size

Also note the large grip on the glass. This grip is of the continuous, spring, friction type, characteristic of *Kawneer* only and is far superior to the intermittent, line grip. *Kawneer* Bars and Sash afford the same grip between the bolts as is found at the bolts — the tension is equally distributed along the edges of the glass.

The spring on Division Bar No. 21B is of No. 20 B. & S. gauge metal.

This bar is for use with glass up to 108" x 108". Do not use No. 21B over 108" in length.

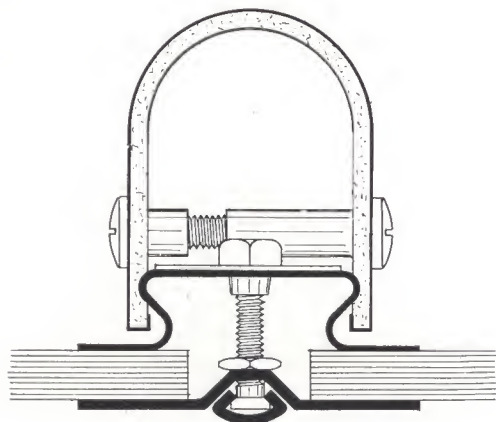
DIVISION BAR No. 21C

This Bar is identical to Division Bar No. 21B, except that the steel reinforcing U is .125" in thickness, (.094" steel is used in No. 21B), and is somewhat larger in depth, giving greater lateral strength.

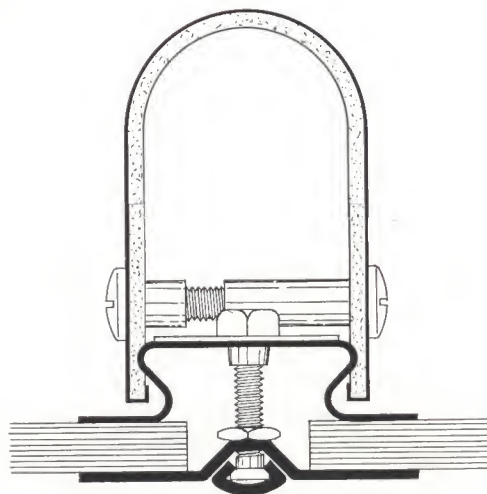
The spring of this Bar is No. 20 B. & S. gauge metal.

Division Bar No. 21C is for use with glass over 108" x 108".

Upon all three of these Division Bars, a rigid attachment is assured by anchor brackets which are fastened at top and bottom. See page 18.



Division Bar No. 21B, Full Size



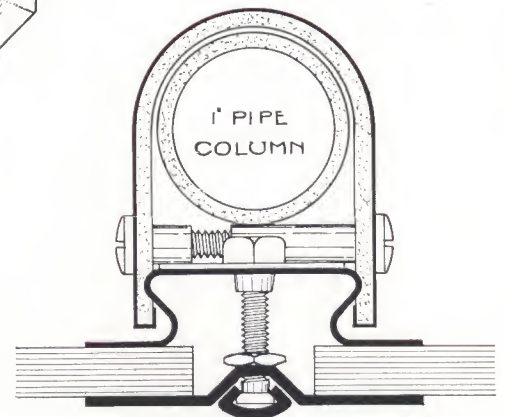
Division Bar No. 21C, Full Size



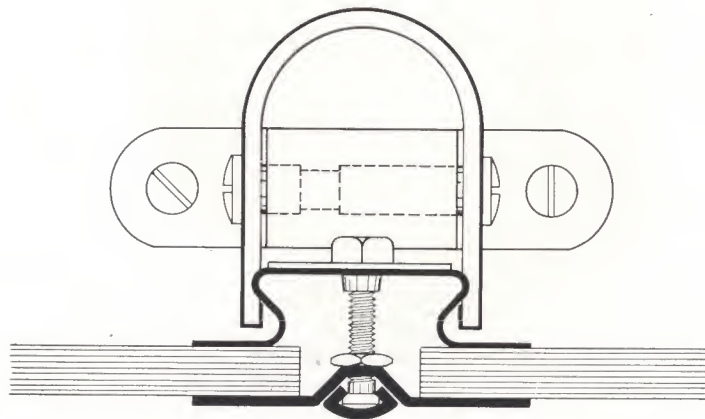
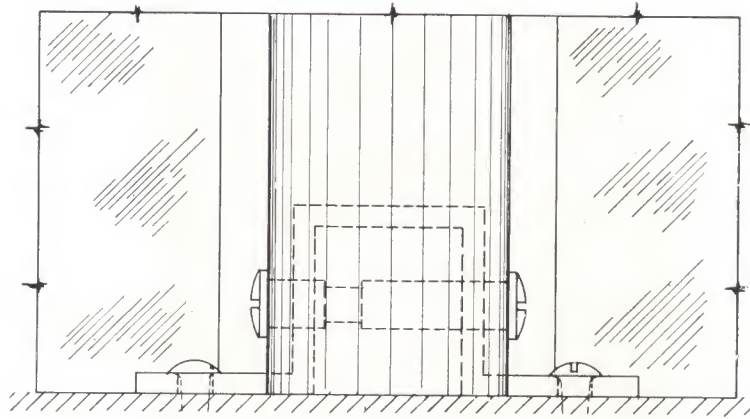
Division Bar No. 21B

OFTENTIMES it becomes necessary for a Division Bar to support overhead weight, and this drawing shows a method of placing a 1" pipe column on the inside of the steel reinforcing U.

Do not over estimate the carrying ability of this construction as it might cause serious glass breakage—Kawneer bars are designed to hold glass rather than support overhead weight.



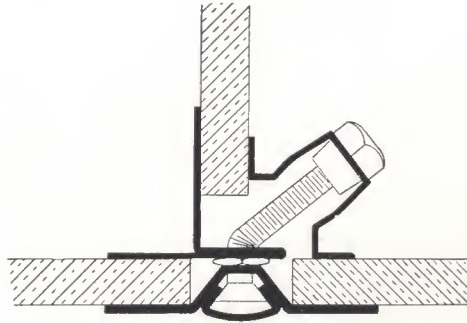
Method of Incorporating a 1" Pipe Column within Kawneer Division Bar No. 21B



This Drawing Shows the Method Used to Anchor
Division Bars Nos. 21B and 21C

WHILE it is not necessary to anchor KAWNEER Division Bars in every instance, it is a safe precaution to do so on all jobs. You will notice the anchors are placed at both top and bottom of bars and are easily attached as shown by the drawing above.

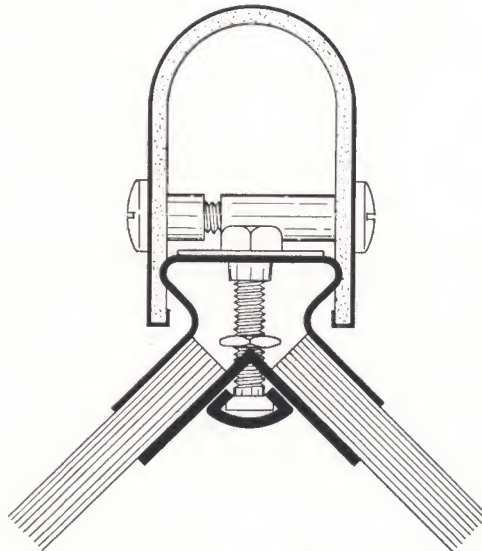
THREE-WAY BAR No. 8



Three-Way Bar No. 8, Full Size

THREE-WAY Bar No. 8 is a combination of a corner and division bar. In some cases transom glass is used not only directly across the vestibule, but, as well, back into the returns. In such a case a Three-Way Bar is necessary, and it has been so constructed as to follow the same general design used on all *Kawneer* bars — spring friction grip, narrow construction — all-metal — no rust, rot or warp.

REVERSE ANGLE CORNER BAR No. 9

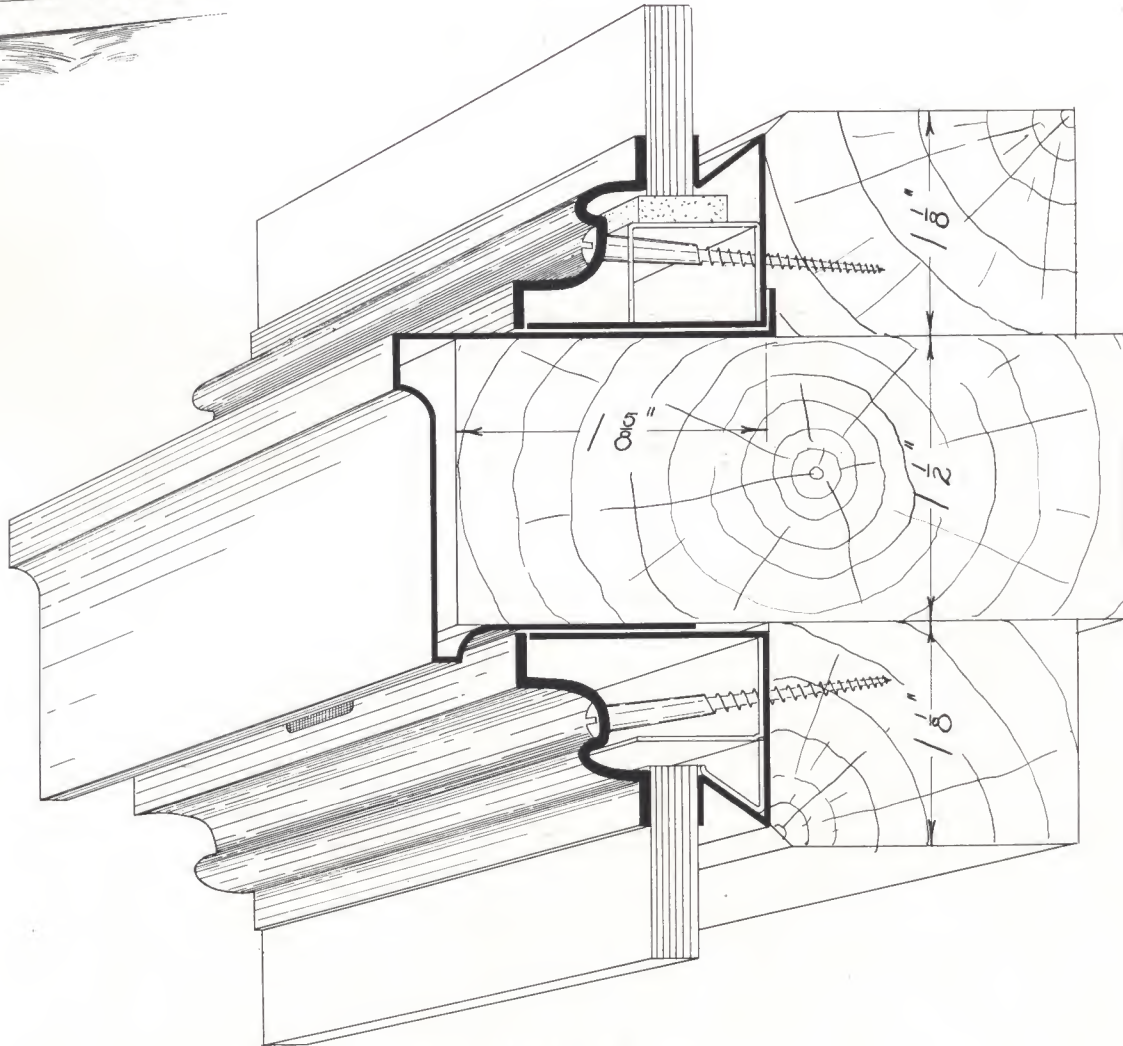


Reverse Angle Corner Bar No. 9, Full Size

Reverse Angle Corner Bar No. 9 is required wherever a Store Front is so constructed that if a regular corner bar were used the face of the bar would be inside the show window. The design is very similar to Corner Bar No. 5. The face piece is drawn of No. 16 B. & S. gauge metal, the spring of No. 20 B. & S. gauge, and the U-shaped reinforcement of .078" steel covered with .012" metal.



TRANSOM BAR No. 26



Transom Bar No. 26, Full Size

TRANSOM Bar No. 26 is furnished complete as detailed, wood core, No. 710 outside metal covering, and two No. 30 metal sash; insuring absolute freedom from leakages.

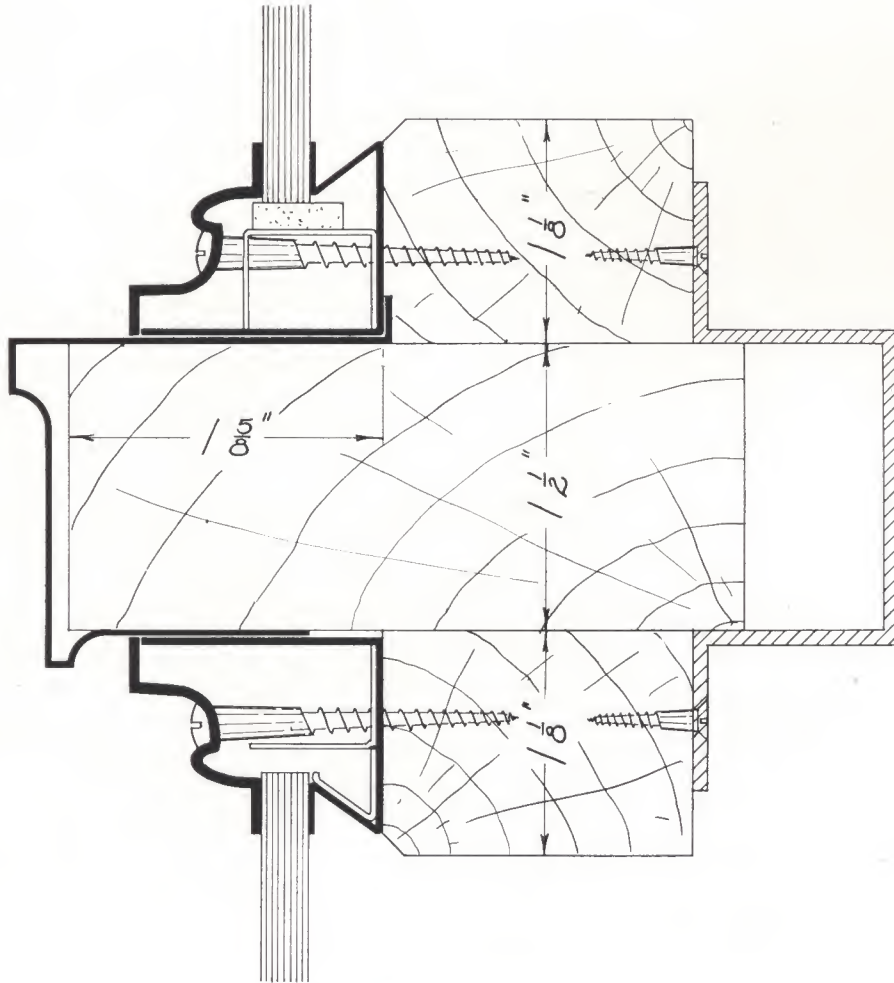
See page 21 for detail of reinforced transom bar, which is necessary only for spans of 14 feet or over that have no reinforcement whatever (either by means of return transom bars, ceiling or columns.)

All transom bars are supported by 7-16" iron rods, threaded at both ends (right and left-hand thread) and attached to the head jamb and transom bar.

Twenty-two feet is the longest length in which this bar can be shipped in one piece by freight, although bars twenty-five feet in length can be shipped by express.



REINFORCED TRANSOM BAR



Full Size Detail, Showing Method of Reinforcing Transom Bar No. 26
by Means of a Steel Channel

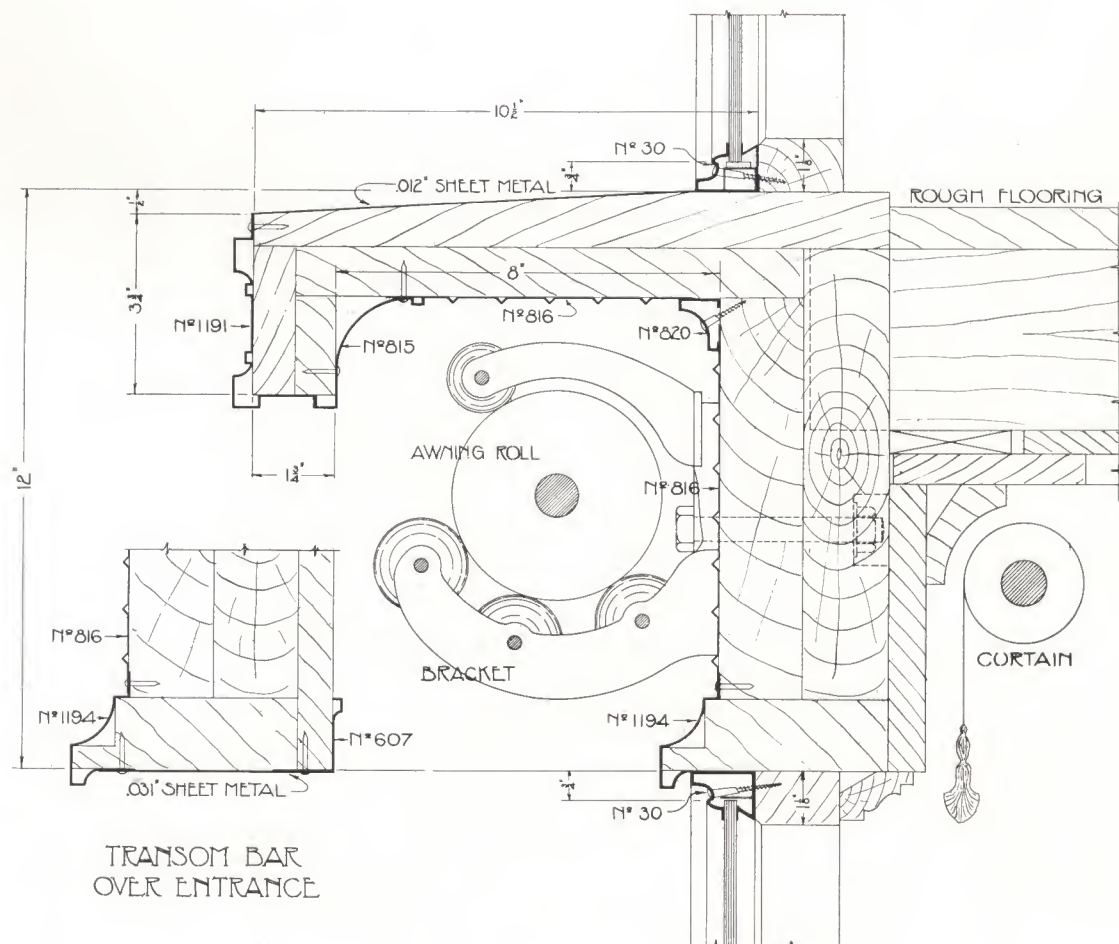
IF, for spans of fourteen feet or over, there is no reinforcement whatever, either by means of columns, ceiling or return transom bars, reinforced transom bars become necessary.

Transom Bar No. 26, reinforced, is of narrow lines and strong steel reinforcement. It is recommended for use under the above conditions and insures safety to glass, freedom from leakages and a handsome appearance.



Kawneer
STORE FRONTS

AWNING TRANSOM BAR

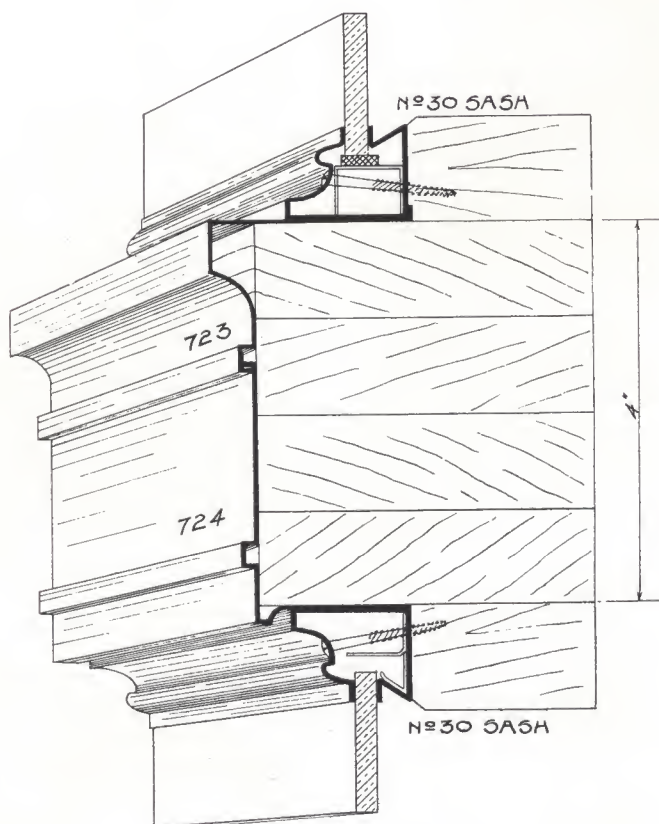


Quarter Size Detail of Heavy Transom Bar No. 52

TRANSOM Bar No. 52 was designed for use with roll awning. The principle employed to protect the awning when rolled up will be seen at a glance. This makes a clean-cut, practical and strong bar and especially adapted for its purpose. We furnish metal only for this bar.



HEAVY TRANSOM BAR

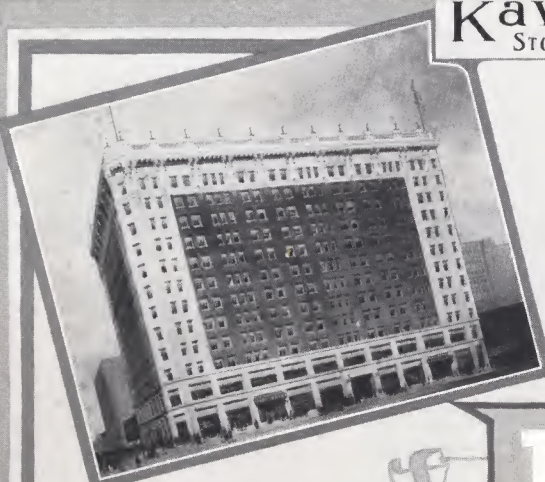


Transom Bar No. 5392, Half Size Detail

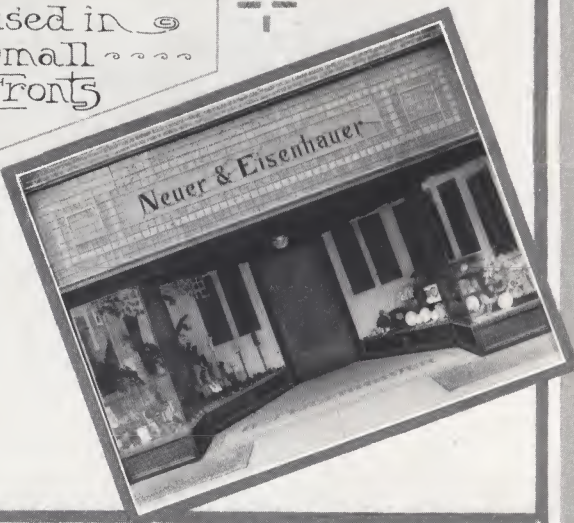
TRANSOM Bar No. 5392 can be varied in width from $2\frac{1}{8}$ inches to 4 inches. The lip of moulding No. 724 is cut down when reduction is desired. This bar can be furnished with or without wood core.

Kawneer

STORE FRONTS



Kawneer is used in
Large and Small
Store Fronts



K

K

Kawneer

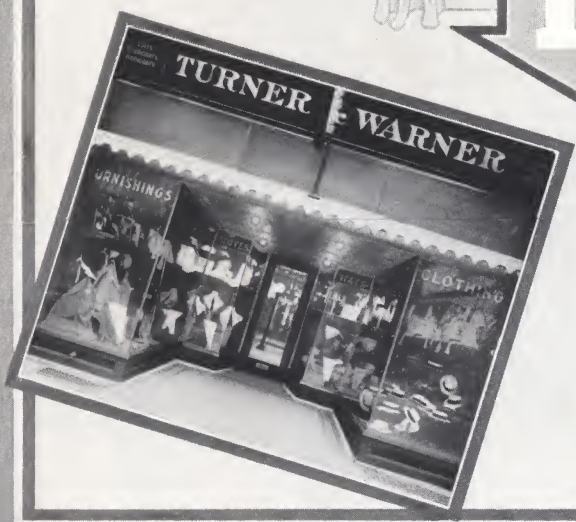
STORE FRONTS



Kawneer is Used
in Large & Small
Store Fronts



K

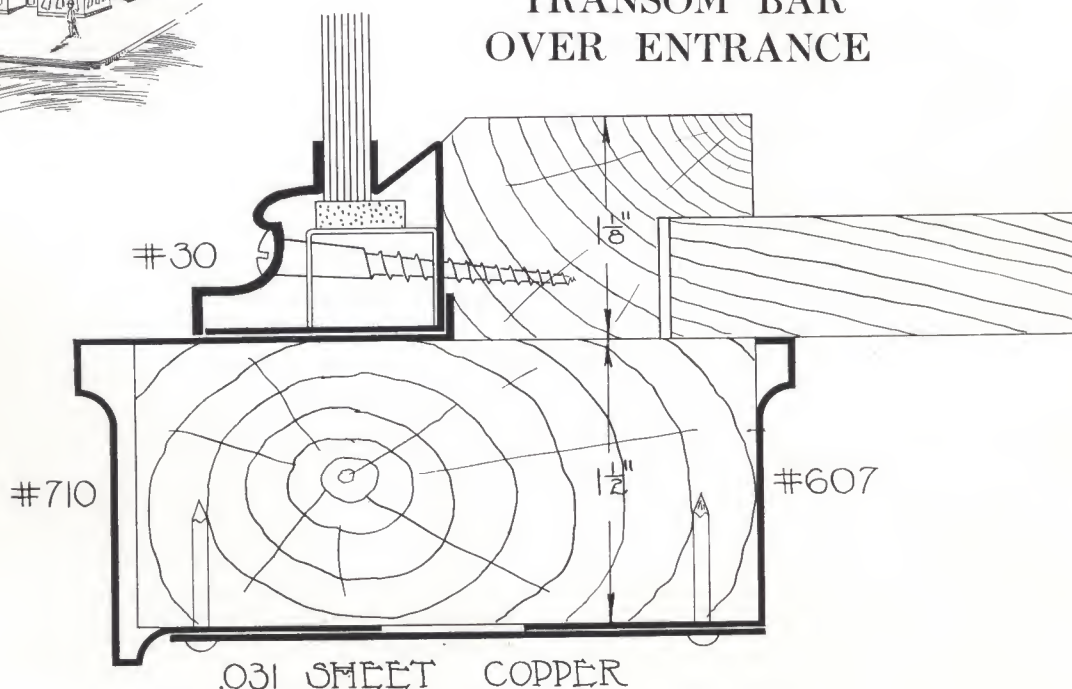


K

K

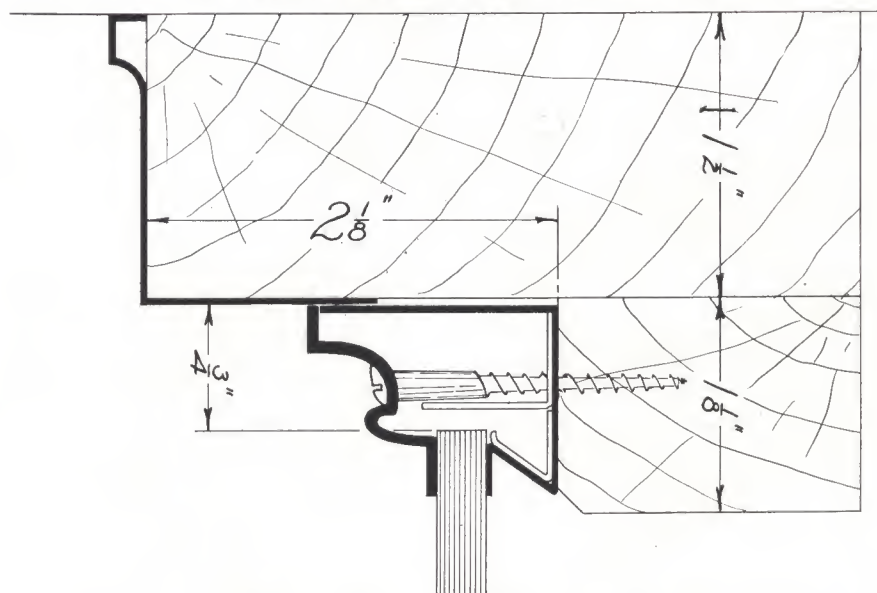


TRANSOM BAR OVER ENTRANCE



Full Size Detail of Transom Bar No. 26 over Entrance
Showing Method of Finishing

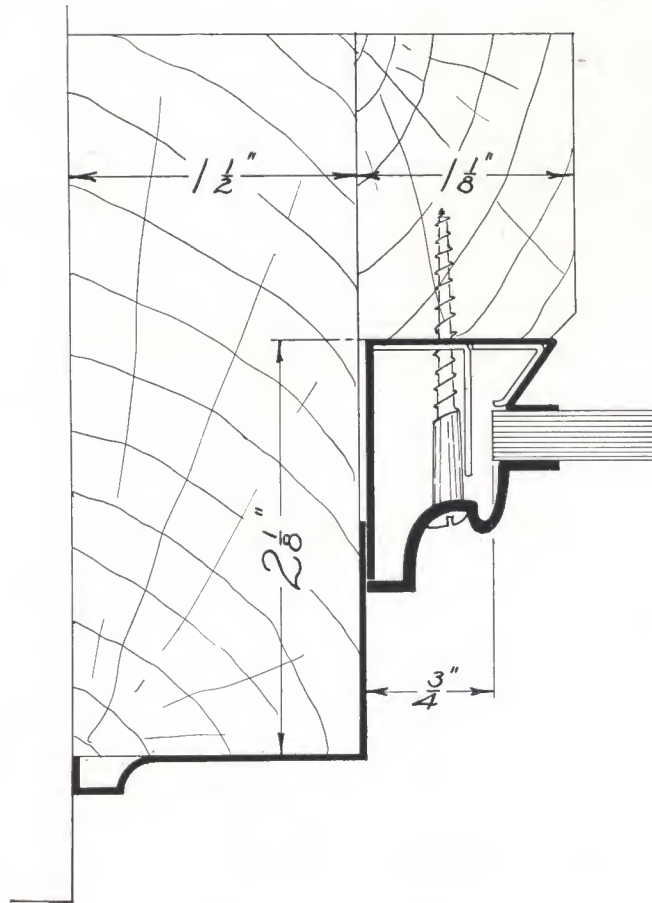
VESTIBULE HEAD JAMB



Full Size Detail of Head Jamb in Vestibule
This Construction Is Used When Vestibule Is Ceiled Over at Line of Transom Bar



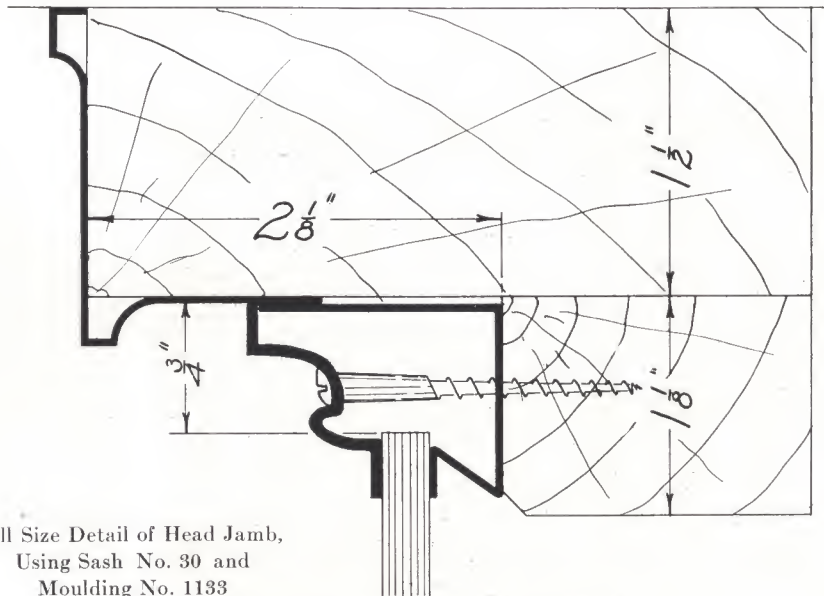
SIDE JAMB CONSTRUCTION



Side jamb construction using the No. 30 sash and No. 607 moulding. Full size detail.

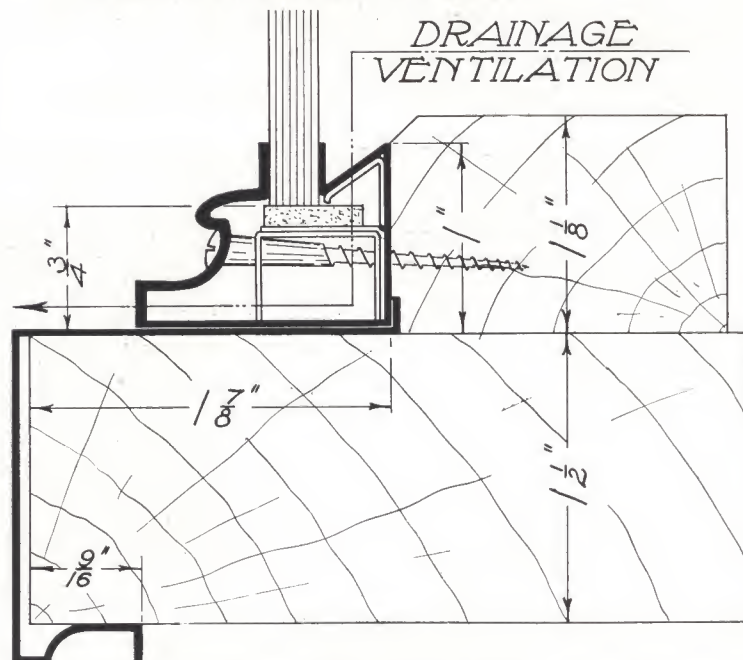


HEAD JAMB CONSTRUCTION



Full Size Detail of Head Jamb,
Using Sash No. 30 and
Moulding No. 1133

SILL CONSTRUCTION



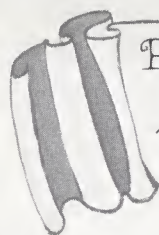
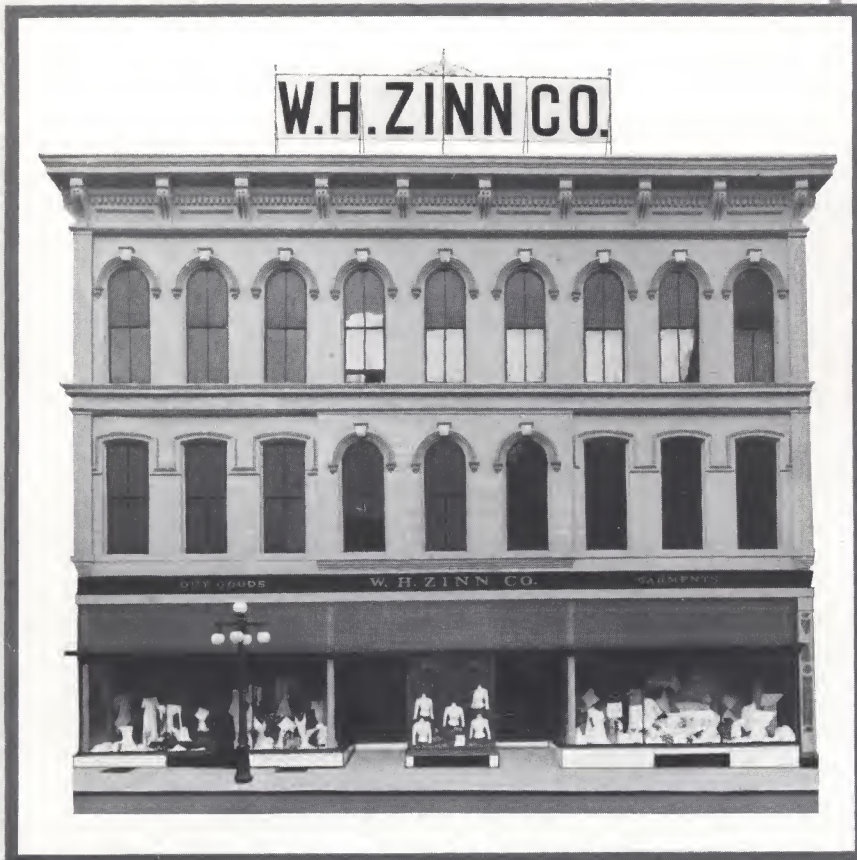
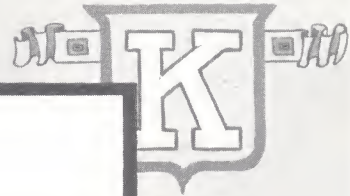
Full Size Detail of Sill Construction, Using Sash No. 30 and Moulding No. 608

K

Kawneer

STORE FRONTS

K



A Typical Example
of Kawneer
Transformation



K

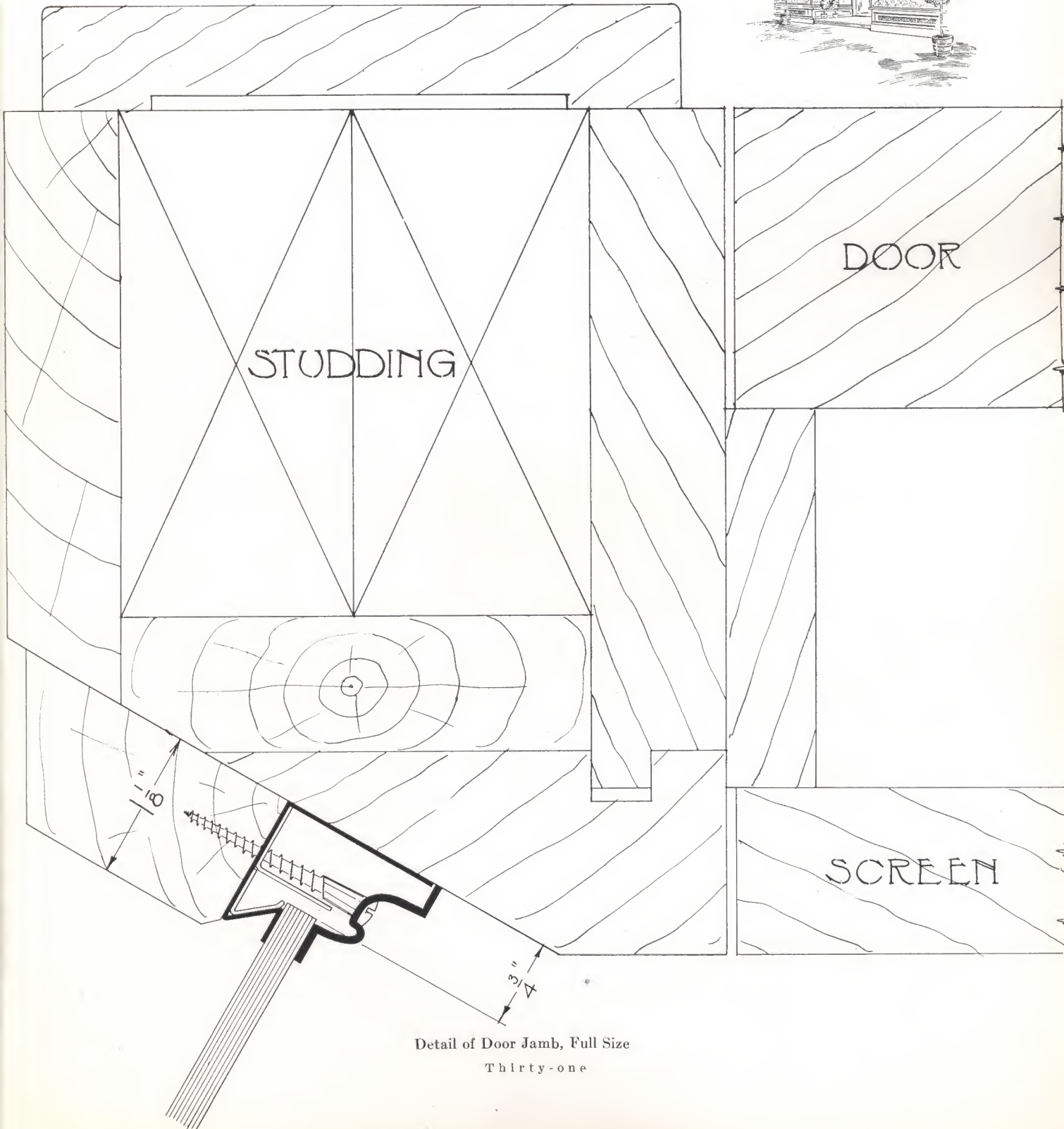
K

Kawneer

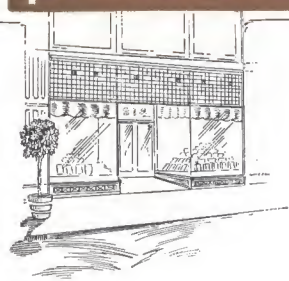
STORE FRONTS



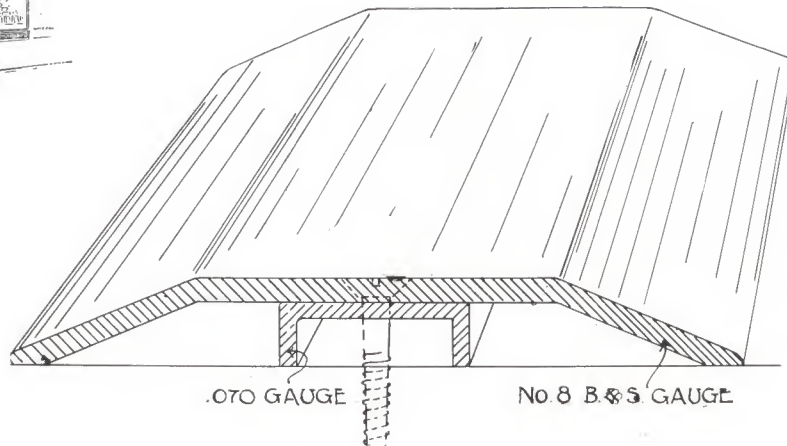
DOOR JAMB CONSTRUCTION



Detail of Door Jamb, Full Size
Thirty-one



BRASS THRESHOLD



Full Size Detail of Threshold, No. 801

KICKPLATES



16 GAUGE

EXACT
THICKNESS

THE face of this threshold is made of No. 8 B. & S. gauge brass, reinforced by short sections of a .070" steel channel. Being of brass it will not rot, rust or warp and the metal used insures a long-lived threshold. It can be furnished in any length in brass; no other metal is used.

Kickplates are furnished in No. 16 B. & S. gauge copper or brass, with square edges, screw holes drilled, and highly polished. Brass screws are also supplied. Oxidized finishes upon copper can also be furnished.

The following sizes are regularly carried in stock:

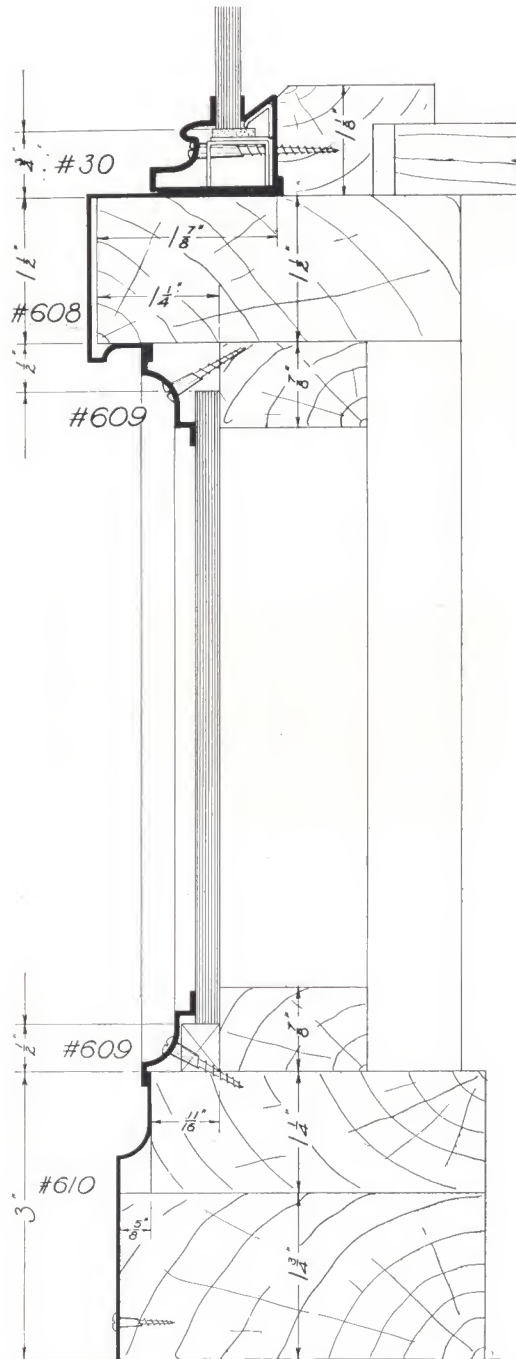
Widths — 10", 12", 14", 16", 18".

Lengths of 29", 35", 41" and 47" can be furnished in the above widths.

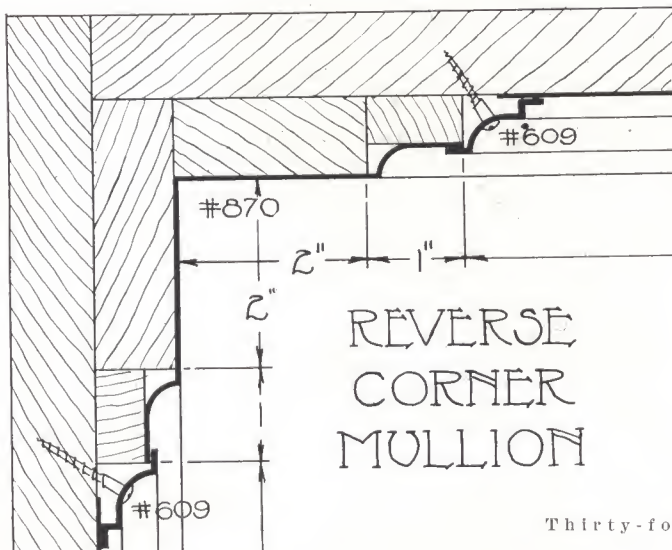
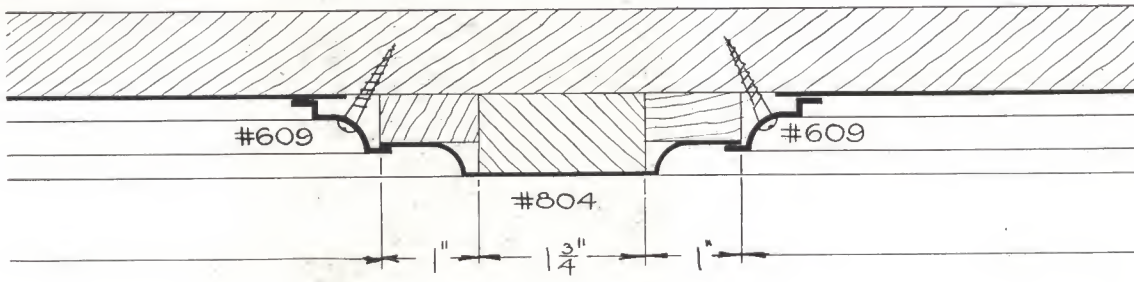
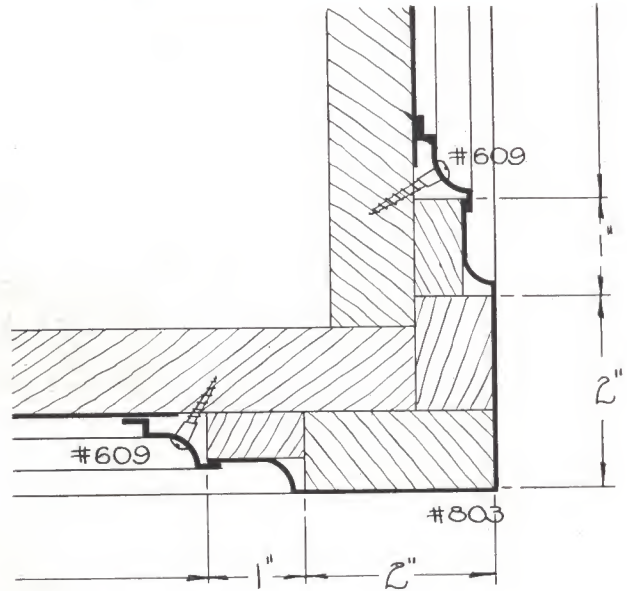
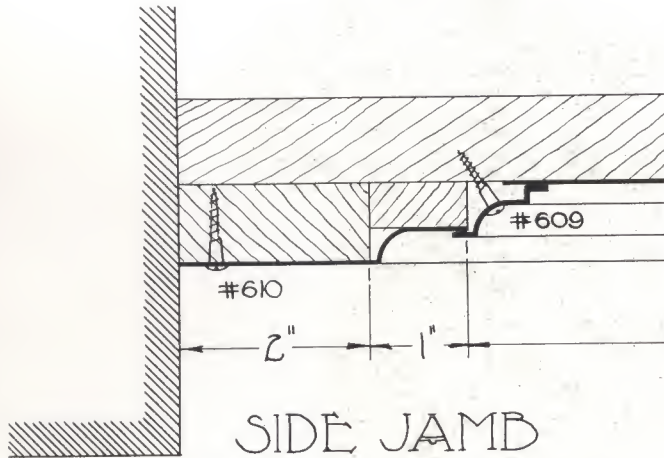
Any other size can be supplied upon request.

All Kawneer material (with the exception of thresholds) is manufactured in the following finishes: Burnished Copper, Statuary Copper, Old or Antique Copper, Spotted Oxidized Copper, Gun Metal Copper, Sand Blasted Old Copper, Burnished Brass, Satin Brass, Brushed Brass, Antique Brass, Burnished Bronze, Brushed Bronze, Satin Bronze, Statuary Bronze and Aluminum.

These finishes are made upon solid Copper, Brass, Bronze or Aluminum in every instance.

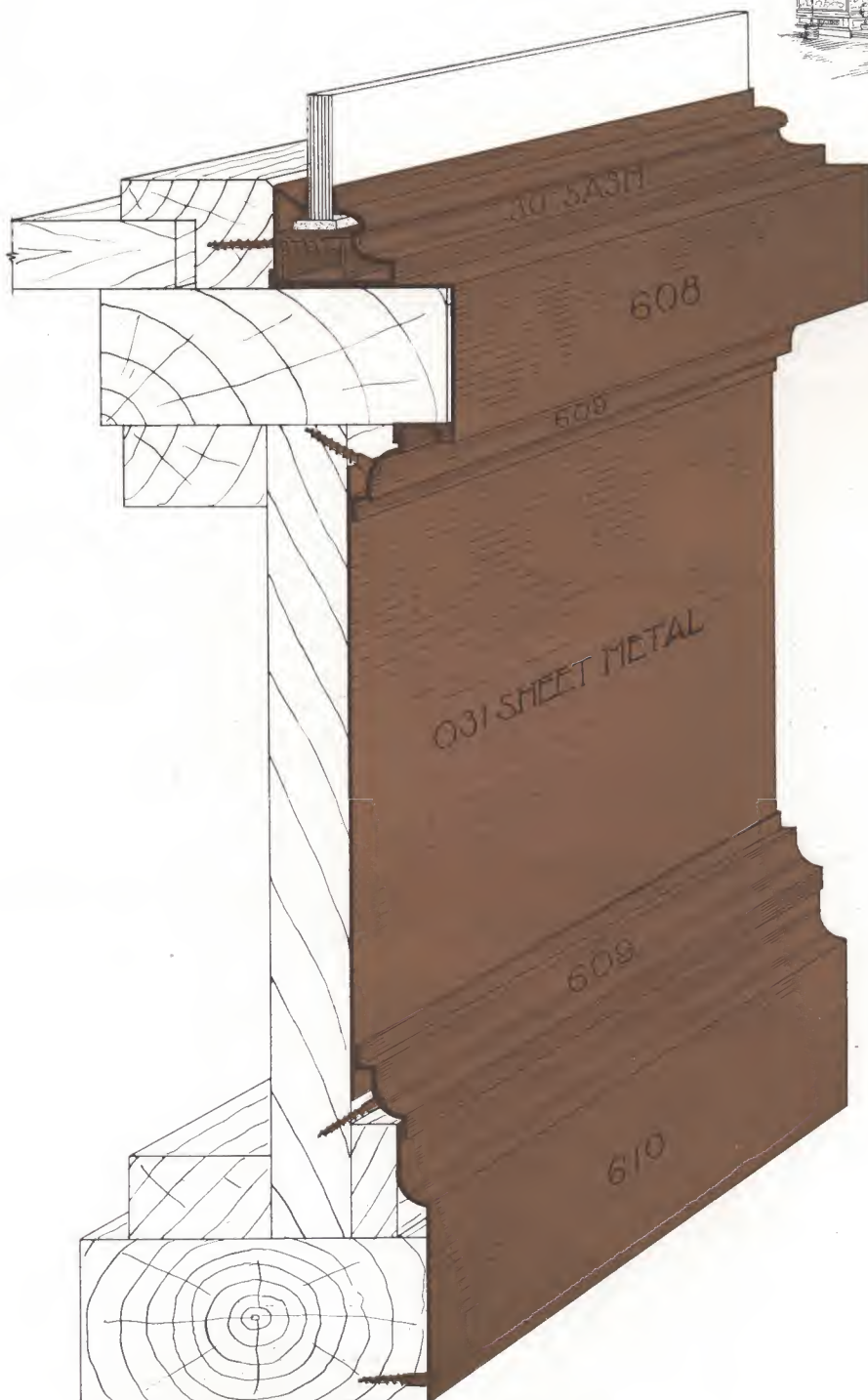


Half Size Detail of Bulkhead Construction No. A3047



Plan Showing Bulkhead Mullion Construction No. 3051

See Page 35 for Elevation Detail



Half Size Detail of Bulkhead Construction No. A3051



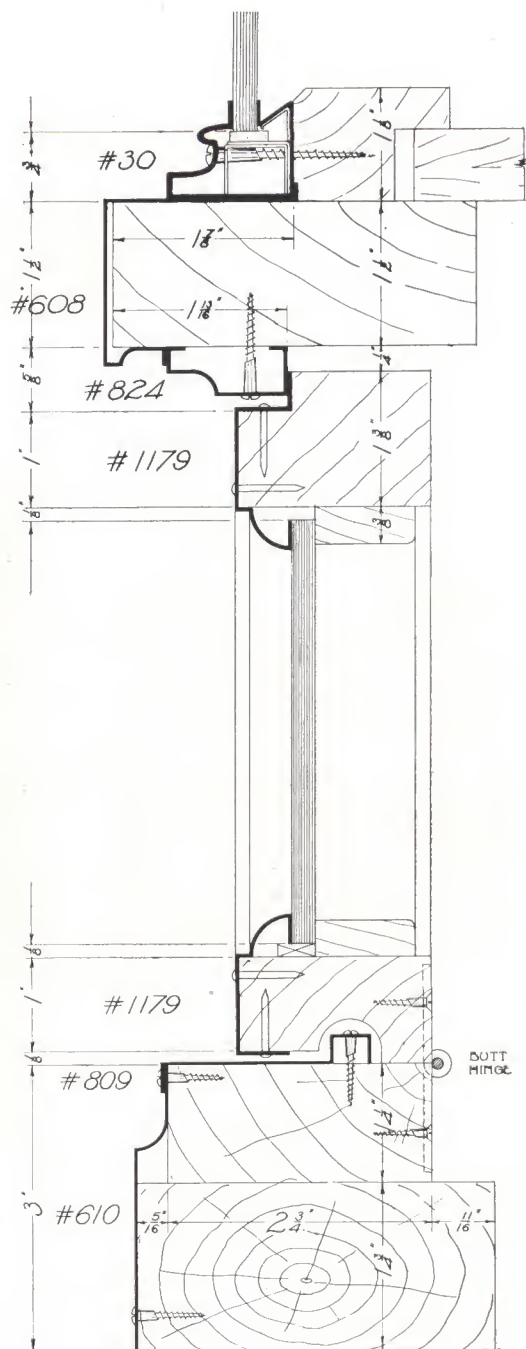
Kawneer

STORE FRONTS

THE bulkhead design shown here fills the demand for a construction entirely covered with metal, and yet so made as to provide hinged sash therein. This sash, with metal covering attached firmly at the factory, can be furnished in conjunction with the metal mouldings covering the stationary parts of this bulkhead.

When it is desired that we furnish this sash complete, do not fail to give the exact size of the opening which it is to fill.

Such a construction as shown above—combining hinged windows with bulkhead entirely covered with metal—is wholly free from rotting or any painting cost, and, as well, gives complete ventilation and light to the basement. Division Bar No. 14A can be readily used for mullions if it is desired to make the glass widths large. No metal of less than No. 20 B. & S. gauge is used in this bulkhead.



Half Size Detail of Bulkhead Construction No. A3069
with Swinging Sash



GARAGE FRONTS



DETROIT, Michigan, is generally acceded to be the "Automobile City" of the United States, and if anything new appears in connection with motor cars or their distribution, its origin, in a great percentage of cases, can be traced to that city.

When in Detroit, there is one thing that strikes you very forcibly — the Auto Garages and Salesrooms. You will see rooms and stores of all kinds but those that "stand out" from all others are provided with Kawneer Fronts. Beauty of design of the Fronts is most important because the surroundings of the exhibition car have a great bearing upon its appearance. That is the reason Kawneer Store Fronts have met with the approval of Architects in designing up-to-date garages and sales rooms, not only in Detroit, but throughout the country.



FROSTING OF SHOW WINDOWS

SHOW window advertising is of such value that any method or means of development is most interesting to the aggressive merchant, and indirectly to the Architect and Contractor. Every hour the glass of show windows is covered with frost it means an absolute money loss to the merchant.

Each year thousands of dollars are spent in altering old Store Fronts in an effort to prevent the formation of frost on show windows and in many, many instances without success. It is erroneous to think that it only requires holes bored at the top and bottom of the glass frame.

Theoretically, cool, dry air circulating in the show window will reduce the humidity and prevent the moisture from condensing on the glass surface and forming frost.

In general the above theory is true, but several conditions enter which must be observed before the results are successful.

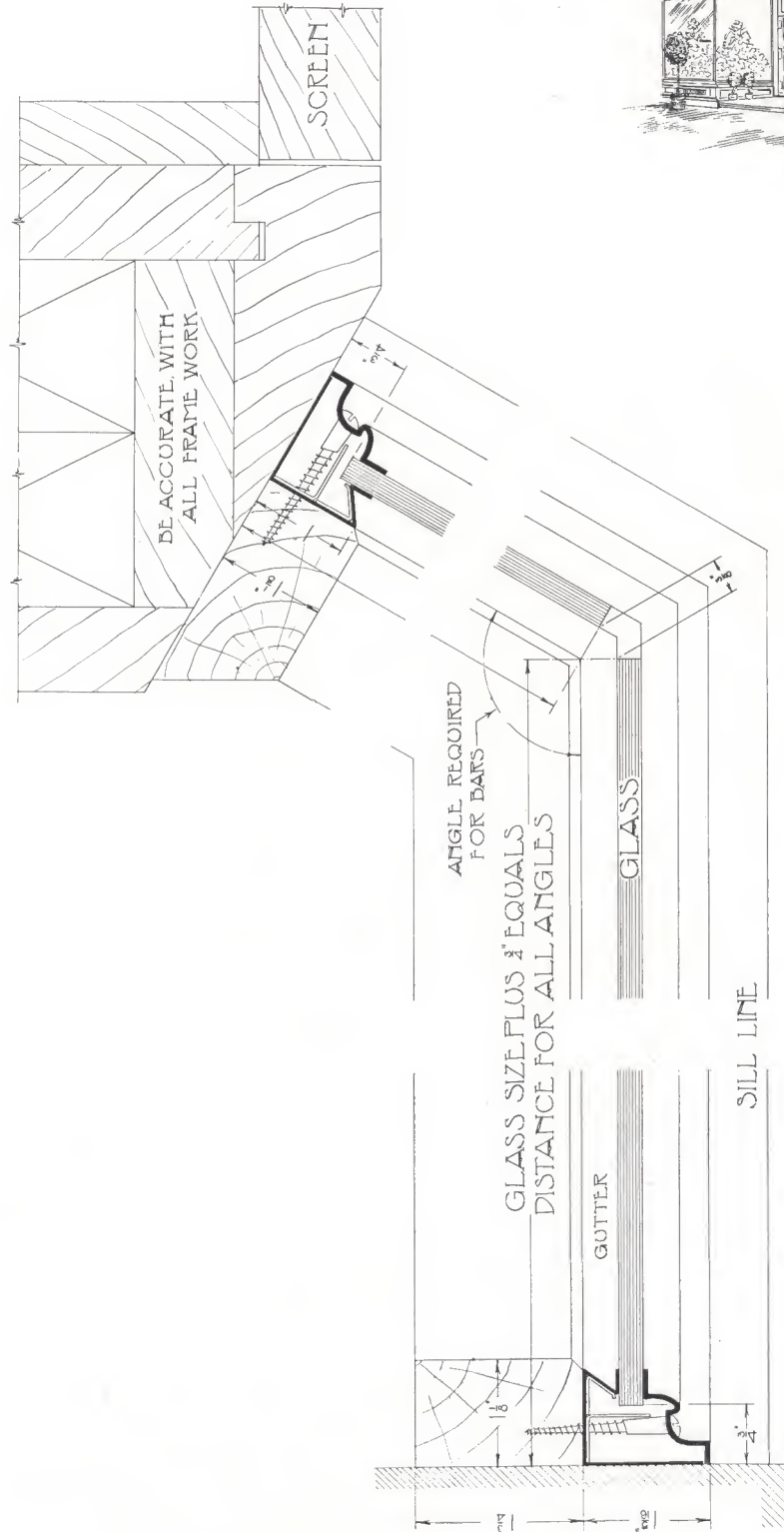
(*First*) The windows must be enclosed from the store proper and this enclosure must be made air tight (absolutely.) The floor, ceiling and partition should be double, with paper between. If glass is used in this partition, it should be puttied and the door entering should be constructed similar to an icebox door, have two rabbets with rubber weather strips around.

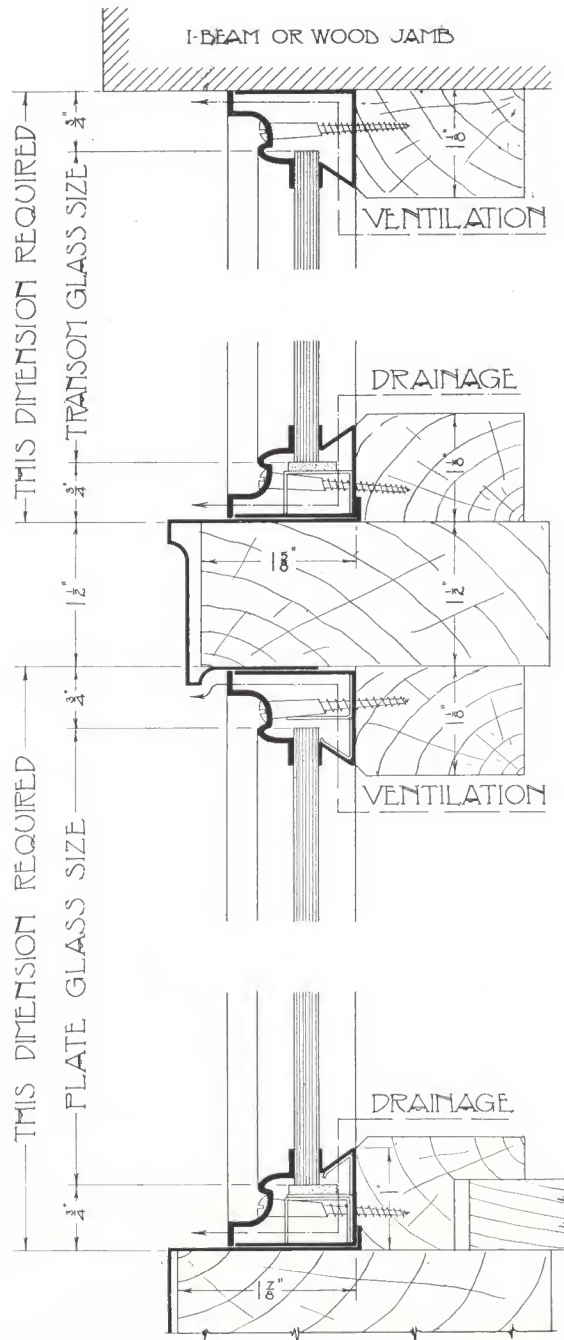
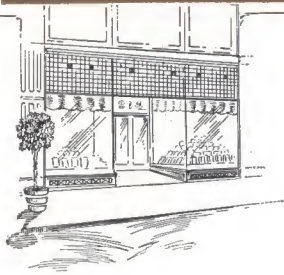
(*Second*) The air from the outside must enter the window near the edges and at the surface of the glass, so that the circulation is greatest at the glass surface.

(*Third*) A sufficient amount of dry air must be admitted so that the moisture is rapidly absorbed by the air entering windows.

Kawneer is designed to cover the second and third articles, but these are of small value as frost preventatives unless Architects and Owners follow our suggestion in section one. In addition to this means of preventing frost, *Kawneer* enables you to make this sash dust-tight in Summer. It is simply a V-shaped slide built in the gutter of the sash. See page 8.

The fact that air in a show window is cold does not necessarily mean that it is dry. We find during Fall weather when a show window is filled with cold, damp air (above freezing) and a sudden fall of temperature strikes the glass, the moist air within the show window will frost before the outside air has time to enter and by circulation take up this moisture. But by continuing cold the frost will disappear and the windows remain clear.





Vertical Section of Store Front
Half Size Detail Showing Relation of Glass Sizes to Length
of Kawneer Metal Sash No. 30 Required



METALS

THE sheet material used in the general construction of Kawneer bars, sash and mouldings is cold rolled and drawn. This gives a surface that is absolutely true and every section uniform. We use no plating, all our materials being solid metal of the respective kinds as listed. We can therefore guarantee quality of the very highest on all our regular or special work.

ULTIMATE TENSILE STRENGTH OF SHEET METALS USED

Aluminum.....	30,000 pounds per square inch	Copper.....	30,000 pounds per square inch
Brass.....	45,000 pounds per square inch	Steel.....	55,000 pounds per square inch
Bronze.....	36,000 pounds per square inch		

MELTING POINT

Aluminum.....	1157 degree Fah.	Copper.....	1929 degree Fah.
Brass.....	1750 degree Fah.	Steel.....	2400 degree Fah.
Bronze.....	1692 degree Fah.		

PROPERTIES OF METALS

Aluminum—2 per cent Alloy.	Steel—8 per cent Carbon.
Brass—62 per cent Copper, 38 per cent Zinc.	Copper—Lake.
Bronze—90 per cent Copper, 10 per cent Tin.	

LIGHTING

Lighting of a display window, show-case, etc., should always be from above and the lights placed so that they are not visible to the passerby.

Formerly lights were placed in vertical rows, but today this is never done in up-to-date windows or show-cases. Such lights are glaring to the eyes and greatly detract from, rather than add to the richness of the display.

Electric:—One ordinary 16 candle power carbon lamp will light about 7 ft. x 7 ft. floor area, but stores should have a much more intense lighting, generally three to five times this amount, while show windows should have five to eight times as much.

The above, however, depends upon the location of the lights, color of the walls, decorations, etc.

The ordinary electric light is objectionable for store windows, and the Tungsten electric globe has supplanted the carbon filament lamp. With this light all materials have their natural color, as in day light—a great advantage in displaying goods.



Kawneer
STORE FRONTS

GLASS — KINDS, QUALITY, MANUFACTURE, ETC.

ORDINARY window and plate glass are known as blown glass. Plates are often cast as large as 20 ft. x 12 ft.

THICKNESS OF GLASS

Rough cast $\frac{1}{2}$ in. to $1\frac{1}{2}$ in. thick.
Polished plate prism $\frac{3}{8}$ in. thick.
Polished plate 3-16 in. to $\frac{3}{8}$ in. thick.

Sheet Prism $\frac{1}{4}$ in. thick.
Wire glass $\frac{1}{8}$ to $\frac{1}{4}$ in. thick.
Ribbed $\frac{1}{8}$ in. thick.

Weight of plate glass is usually estimated at $3\frac{1}{2}$ pounds per superficial foot.

Tensile strength of glass ranges from 4,000 to 6,000 lbs. per sq. inch.

Crushing strength ranges from 13,000 to 20,000 lbs. per sq. inch.

WIND PRESSURE FOR PLATE GLASS

Frequently the fact is overlooked that the size of plates should be proportioned to the wind pressure they must sustain; *i. e.*, as the glass increases in size its strength diminishes very rapidly, because the glass thickness is not increased in proportion to the area of the glass.

The following table gives results of experiments made by us and shows the relative strength of plate glass when subjected to wind.

The second table gives the government test on wind pressure according to various velocities.

Comparing these tables, one can see within what limits glass is considered safe.

Plates higher than nine feet should be supported by an iron brace having a rubber wheel on the end in contact with the glass.

Copy righted 1908 Kawneer Manufacturing Company

Plate Glass Sizes	Safe Wind Pressure in Lbs. per Sq. Ft.	Plate Glass Sizes	Safe Wind Pressure in Lbs. per Sq. Ft.
24 in. x 24 in.....	244 lbs.	108 in. x 108 in.....	21 lbs.
36 in. x 36 in.....	192 lbs.	120 in. x 120 in.....	16 lbs.
48 in. x 48 in.....	144 lbs.	132 in. x 132 in.....	11 lbs.
60 in. x 60 in.....	90 lbs.	144 in. x 144 in.....	8 lbs.
72 in. x 72 in.....	54 lbs.	156 in. x 156 in.....	6 lbs.
84 in. x 84 in.....	36 lbs.	168 in. x 168 in.....	5 lbs.
96 in. x 96 in.....	26 lbs.	180 in. x 180 in.....	4 lbs.

WIND PRESSURE PER SQUARE FOOT, ACCORDING TO GOVERNMENT REPORT

Velocity	Pound Pressure per Sq. Ft.	Miles per Hour
Brisk gale.....	$1\frac{1}{4}$	16
Very brisk.....	3	25
High wind.....	6	35
High storm.....	12	50
Great storm.....	21	65
Hurricane.....	32	80
Violent hurricane.....	50	100





INSTRUCTIONS FOR ORDERING

WHEN ordering, in every case possible, send us blue prints showing a dimensioned plan and elevation of the front. To accurately cut our material we cannot get sizes by scaling a blue print; we have to allow from one to three inches for the shrinkage of the blue print. When a print cannot be sent, send a sketch showing elevation and plan, and indicate the sizes on same. *Do not fail to tell us whether the sizes given are glass sizes or full length of material including allowance for cutting mitres.*

The two sketches on pages 38 and 39 showing a plan and vertical section of our material used in a Store Front indicate the sizes of our sash bars in relation to glass sizes.

Be sure to either state the angle of the glass on all corners or have same shown on sketch. The angle "A" on page 38 is the one required

When requesting prices on any special work or when ordering give all information that relates in any way to the Store Front; don't be afraid of giving too much. In this way our shipment to you or the information you request will not be delayed while we are writing you for more definite particulars.

Give shipping directions stating whether order is to be shipped by Express or Freight. Unless such directions are given all orders will be sent by Express.

No. 30 sash weighs packed approximately 1 lb. per foot.

No. 50 sash weighs packed approximately $1\frac{3}{4}$ lbs. per foot.

No. 60 sash weighs packed approximately $1\frac{1}{4}$ lbs. per foot.

No. 100 sash weighs packed approximately $1\frac{3}{4}$ lbs. per foot.

No. 130 sash weighs packed approximately $1\frac{1}{4}$ lbs. per foot.

No. 5 corner bar weighs packed approximately 1 lb. per foot.

No. 10 corner bar weighs packed approximately $1\frac{1}{4}$ lbs. per foot.

No. 14A corner bar weighs packed approximately 1 lb. per foot.

No. 21B corner bar weighs packed approximately $2\frac{1}{2}$ lbs. per foot.

No. 21C corner bar weighs packed approximately 3 lbs. per foot.

No. 26 transom bar weighs packed approximately $4\frac{1}{2}$ lbs. per foot.

All orders will be filled with the Burnished Copper finish when no other is specified in the order.



KAWNEER PRODUCTS

ASIDE from building the original, solid, all-metal Store Front Construction, we manufacture cold rolled and drawn hollow metal mouldings in copper, brass, bronze and steel. Architectural mouldings of this type and kind are constantly becoming more popular in the construction of buildings as well as in metal furniture, automobiles, railway coaches, factory and casement windows and constructions of that nature.

Cold rolled and drawn mouldings are true in every respect. All curvatures and angles are uniform and exact — true to design; the surface of these mouldings are smooth and finished — no rough spots or pits such as are found on mouldings produced by other processes.

You will readily appreciate the wonderful advantages of such mouldings.

We have many standard shapes in stock and also are able to furnish you with mouldings of special shapes on very short notice. Our facilities for handling this are unsurpassed and we give this class of work the same prompt and careful attention that has always been given *Kawneer Store Fronts*. Realizing, as we do, that such material as this should be manufactured and shipped promptly and with care, we have equipped ourselves accordingly.

On any cold rolled and drawn mouldings that you may be interested in, we would be very glad to figure with you — in any event, we would like to have you learn of the wonderful advantages of mouldings of this nature.

K

Kawneer

STORE FRONTS

K



Ka



er

A Few Views
of our
Niles Factory



K

K

K

Kawneer

STORE FRONTS

K



Kaer



A Few Views
of our
Niles Factory



K

K

THE L. P. HARDY CO.
Printers, Lithographers
South Bend, Indiana

